

Is Hope the New Antibiotic for Physical Illness?

Christy Lewis and Kendell Munzer

What is hope exactly? It is certainly a term we use freely in our lives, and often daily. “Hope” you’re feeling better soon. “Hope” you do good on your exam. “Hope” you have a good trip. It is very much a part of our everyday vocabulary, yet even when brilliant scholars try and capture hope’s essence, the meaning is quite intangible. In fact, this rather elusive concept of hope has been written about across many civilizations and even dates back to about 485, to one of the oldest books ever written, the Bible. In the Bible, one of the most familiar quotes about hope is “hope deferred makes the heart sick, but a dream fulfilled is a tree of life” (Proverbs 13:12, NLT). Thereby, the very essence of the Bible is built on the idea of hope and that Jesus died and took on people’s sins, judgements, condemnations, and shame, so they will be rewarded in heaven free of illness, pain, and suffering, and according to the gifts they have received from God.

Building on the concept of hope and moving forward to modern times, there are many neuroscientists and psychologists, along with religious, spiritual, and political leaders, who have written notable views about hope and how our body responds to thoughts and emotions. One inspirational present-day author is Eckhart Tolle, a spiritual teacher, who has dedicated his life to inspiring hope in others, and writes about love, happiness, and how to live in the moment. Terry Small is a popular learning skills specialist and master teacher with extensive experience in applied neuroscience, who is the author of the Brain Bulletin, a series of articles dedicated to brain health.

Dr. Daniel Amen, Dr. Mark George, and Dr. Robert Sapolsky are authors and neuroscientists who specialize in brain and behavior. Dr. Amen and Dr. George are part of an ever-growing movement that includes brain imaging to educate the public about the importance of brain health by instilling hope to those who suffer from mental or physical illnesses. Charles R. Snyder, a distinguished professor of clinical psychology and American psychologist, presented his theory of hope which includes a well-defined model of goal directed thoughts and emotions. He offered the assumption that hope is derived from acquired learning - not only a cognitive characteristic but also a dynamic state. He said hope is based on the target from which

it cannot be separated. We can also mention Viktor Frankel, who offered a now famous and inspirational story of finding hope in a concentration camp. Frankel is truly a man who exemplifies hope in every sense of the word. In this essay, we will synthesize the diverse perspectives on hope offered by these researchers and practitioners and will offer our personal stories of how we both use hope to cope with chronic illness and disease.

The research findings and life experiences of the fore mentioned authors yield excellent insights regarding the concept of hope and how our understanding of it is evolving. Their proposed definitions of hope prompt some challenging questions:

Is hope a place one can visit, or is hope a state of mind?

Is hope a place one can stay and linger easily, or it is a job – an action that one needs to take to stay and labor in it?

Is hope something that can be taught?

Can hope be quantified?

In this essay, we focus on the concept of hope and what our bodies undergo both psychologically and physiologically when dealing with chronic illness. We offer suggestions for applying positive thought changes, along with lifestyle self-care strategies, to better cope with illness, instill hope, and live an improved quality of life. Finally, we will discuss how feelings of hope and implementing positive changes can literally change brain physiology, supporting the idea that hope can be an “antibiotic” to improve symptoms of physical illness.

Hope is not something tangible that you can touch, or hand to someone. It is not something that can be taken in a pill form when we are sick. Hope is a mindset—a very specific mindset, based on determination, motivation, goals and often grit. It is not about being blissfully naive or having wistful positive thoughts. Hope is larger and more substantive than that. Hope is more likely to be attained if one determines a specific and intentional goal, and then can clearly and systematically define the thought pathways to get there. Ultimately, hope is about having the will and motivation to stay on one’s path no matter what. This is what opens the doorway to

hope and keeps it open. Interestingly, there has been much research done on the role that hope plays in the outcome of individuals with chronic conditions, physical illness, mental illness and trauma. This research often concerns whether persons are experiencing a crisis of the spirit, mind or body. The feeling of hope, in many cases, is what separates the survivors from the victims.

Viktor Frankel was a man who faced extreme physical, emotional, and spiritual degradation for years on a daily basis. He was a holocaust survivor of Auschwitz: one of the most brutal and barbaric concentration camps of World War II. However, to call him merely a survivor would be to do a great injustice to this remarkable man. He was a thriver. How was it that he came out of such a brutal and inhuman experience not emotionally broken, hateful and bitter? He thrived even after learning that the Nazi's had slaughtered his wife and his entire family, save for his sister who was able to escape. Frankel had a fervent hope that coursed through him each and every day. Hope was his life raft, his security, and ultimately his immunity. He adopted this state of mind, and even imparted this wisdom and inspired his fellow prisoners.

Viktor Frankel worked with individuals with severe depression and suicidal ideations by encouraging them to focus on positive memories, scenes and thoughts. In doing so, he was teaching them that their lives had meaning and purpose, helping them to create the will and motivation to continue fighting and maintain hope. Viktor Frankel is quoted as saying,

Those who know how close the connection is between the state of mind of a man, his courage and hope, or lack of them and the state of immunity of his body will understand that sudden loss of hope and courage can have a deadly effect.

In his own work, Charles Snyder observed that high hope individuals do not react in the same way to barriers as low hope individuals. Instead they view barriers as challenges to overcome and use their pathway thoughts to plan an alternative route to their goals. Some may say that hope and optimism are closely connected and sometimes even feel the same, but many psychologists hypothesize that hope is distinct. Hope ascends when we have a goal firmly in mind and we have a plan to get us there despite uncertain or even dire circumstances. Hope

implies there is the possibility of a better future. This is how Viktor Frankel survived and ultimately triumphed.

Kendell's Story

One of us (Kendell Munzer) suffers from Chronic Lyme disease. She was diagnosed 13 years ago but suspects that it was latent for many years before that. Her diagnosis did not come about easily, and the path to the hope she eventually found was a long and rough one, fraught with many tears, anger and impatience. It was not a concept she was familiar with, and certainly not one with which she was comfortable. She viewed her disease very concretely, and in terms of healing: if she could not see it she did not believe in it. Her story starts with her doctor somehow missing the positive Lyme test on her bloodwork. She spent months, going from doctor to doctor, with countless visits to the ER in between, trying to figure out what was wrong with her. As time went on with no answers, she began to spiral and became more and more entrenched in her illness.

A debilitating fear crept in, and eventually took over. It was terrifying not to have any answers as she became increasingly sick. Finally, her initial doctor called her apologetically to let her know that the Center of Disease Control (CDC) had sent him a letter acknowledging her status as Lyme disease positive, and that he had somehow missed it. The CDC collects data on the amount of new Lyme disease patients every year and reports to the doctors that they have received this data. Kendell was elated, thrilled that she “only” had Lyme disease. Up until this point, everything she’d ever heard about the disease was that it was very easy to cure. Her doctor confirmed this by assuring her that she just needed a quick one-month round of antibiotics and she would be back to new. This news was beyond welcoming, as at the time among many other things, she had a 1-year old son at home and had been completely unable to care for him.

One would think this would be the end of her story, but unfortunately it is just the beginning. Regrettably, Lyme disease can become chronic if not caught early enough, so one simple round of antibiotics did nothing to help her symptoms. What Kendell needed was a longer antibiotic treatment, but her doctor refused. She was told if it did not resolve in one month, she had something else going on with her—possibly psychosomatic or psychiatric. Heartbroken, she

was back to square one. Lyme disease is very controversial and misunderstood. Because of this, many doctors either do not believe in or will not admit that chronic Lyme disease exists (the reasons for this are very lengthy and convoluted, but in essence it comes down to insurance companies and money, money, money!). Frustratingly, Kendell was facing a disease that did not exist, and doctors who wouldn't treat her. She was at a place with the disease where she was almost completely incapacitated, and very close to just giving up. The debilitating pain and insomnia along with how it was manifesting psychologically was destroying her. Teetering on the edge, she had a realization: *if she was going to get better, she had to change her mindset.* Sitting idly by and being a victim to her disease was getting her nowhere, it was time for a shift.

In his “Hope Theory”, Snyder and his colleagues talk about pathways thinking and agency thinking. The theory behind pathways thinking is that for one to reach their goals, one must first view oneself as capable, which is a motivational component. “The perceived capacity to use one’s pathways to reach desired goals. It is the knowledge that I can do this, and I am not going to be stopped!” Kendell had a baby at home, and her whole life ahead of her. She knew it was time to dig deep and move beyond her fear and pain--to look within herself. What she found, underneath all her anguish and despair was a little spark. Upon further investigation, that spark she found was hope! This hope would develop slowly and cautiously, but eventually bloom into something fierce and heroic!

Armed with this feeling of hope, she began to do her own research and then wholeheartedly committed to what she believed to be true about her disease. In the midst of this, she found that she was actually quite capable. This was even in the face of much adversity, discouragement and often times anger at her “naivete” coming from the immediate medical community around her. She took all this new-found knowledge she had discovered and formulated new pathways of thinking. From this place of hope (and being re-centered) Kendell had the courage to think outside the box and surround herself with respectable, informed doctors, and the right medicines. She discovered homeopathic remedies and spiritual modalities, creating a pathway to a new goal of health and healing. She is still on that path today—and because she was able to change her psychology and embrace hope, she continues to prevail.

Christy's Story

Christy Lewis has also struggled with a chronic disease: bladder cancer. This type of cancer has the highest recurrence rate of any cancer, and she has been diagnosed and treated five times over the past eleven years. The cancer word is very scary indeed, and when one is diagnosed with it, they might go into a state of panic. Has it spread? What stage of cancer do I have? What are my chances of survival? When Christy was first diagnosed, she had a surge of adrenalin, and a dissociative experience as she listened to the urology doctor tell her the news. She at once thought, “Wow, is this how I’m going to go out? Bladder cancer?” As the news settled in, Christy started researching anything she could about bladder cancer.

Consistent with Snyder’s hope theory and high hope individuals, Christy began to generate new pathways of thinking about how the cancer was going to affect her life. She motivated herself by increasing her knowledge about cancer, instilling hopeful thoughts, taking the right supplements, and employing spiritual practices. She learned to accept the realistic fact that she would probably have multiple re-occurrences. She learned that if she attended her three-month checkups without fail, this would lessen the chances of the cancer spreading into her body cavity and the cancer would be treatable. She developed a hopeful attitude, and a positive way of coping with the disease.

This doesn’t mean she does not experience feelings of disappointment when she hears discouraging news that the cancer has returned. Instead, Christy can intentionally move back into her positive thought process by educating herself, serving others, reaching out to her support system, and ingesting foods that are known to fight cancer cells. She has learned that living her life with purpose is paramount. She is grateful for her life and appreciates everyday miracles. Learning to live in the present moment and living a life with meaning helps one better cope and instills high hope for anyone living with a devastating chronic disease.

The Psychology of Hope

Now let us look at how hope affects our psychology. It starts as a shift in our thinking—a shift that recognizes possibility, and slowly begins to illuminate a pathway from the seemingly

impossible to possible. Although it initially starts as a mindset, that mindset creates a psychological change. That change, in turn, slowly begins to create new neural pathways in our brains. Thoughts and feelings of hope involve restructuring our beliefs and expectations. One very effective way to achieve this is by using visualizations and meditation. In doing these types of exercises, we can guide our minds through a journey of intentional stillness, positive thoughts and mindfulness that benefits our psychological well-being and impacts our physical self.

Hope is a powerful remedy in mitigating feelings of depression, anxiety, despair, and worry. In the presence of hope, stress is also alleviated. Take the case of someone like Kendell or Christy with a chronic illness and disease. Since they had hope, they were able to realign their perspectives and move past what otherwise would have been some very psychologically debilitating barriers. In doing so, they were able to use hope as an antidote to the worry and fear that could have otherwise consumed them and rendered them powerless. The power and the gift in hope, is that it allows us to adjust how we view ourselves. In doing so, hope helps us achieve goals beyond what we even imagined was our capacity. Hope also offers the benefit of positive expectation. That expectation turns into an optimism that allows new pathways to form.

Thoughts of hope start off initially as a mindset that creates a psychological and physiological paradigm shift—a psychological adjustment in your thoughts. Just that small alteration allows for new neuronal pathways in your brain to form. When one starts to experience this feeling of hope, the brain generates and releases different chemicals. It begins on its own, but eventually creates a domino effect that leads into positive emotions. Such emotions might include courage, confidence, motivation, and happiness. This emotional cascade can eventually lead to a feeling of self-efficacy. Armed with these positive emotions, a collaboration of coping strategies begins to form.

We all know that negative emotions can be destructive to our mental health. Our brain can literally cause a physiological reaction if there is a constant focus on sickness. Consequently, sickness is what we get. The psychology behind this is well studied and verified. So, it would be correct to conclude that hope can and does impact our health in the positive. When we focus on getting better, these positive thoughts and actions ultimately determine our success. The gift that hope gives us is the gift of possibility, and with that there is endless potential.

The Neuropsychology of Hope

In addition to our thoughts contributing to our feelings, neuroscientists continue to make new discoveries about the functionality of the human brain, revealing a deeper understanding between the mind and body connection. They offer valid explanations about how our brain and body respond to positive and negative emotions. Feelings associated with high hope and optimism jumpstart our decision making and problem-solving abilities which start in our frontal lobe, where our executive functioning network is located. In turn, these thoughts and feelings of hope stimulate the immune system, which motivates us to action. These feelings of hope calm down our sympathetic response (stress response) in the body, the limbic system, and our prefrontal cortex.

The limbic system is largely responsible for our emotions and other parts of the brain that control the release of dopamine, norepinephrine, and serotonin (three neurotransmitters that are important in mood regulation). In *Behave*, the noted neuroscientist, Robert Sapolski describes the limbic structure as multifaceted: involving the amygdala, hippocampus, thalamus, hypothalamus, basal ganglia, and cingulate gyrus. Both Sapolsky and Amen show how a person's brain releases "good" chemicals when having positive thoughts. Sapolsky indicates that the limbic system's regions form circuits of excitation and inhibition in the brain, while Amen describes the impact which our cognitions have on our emotions. Amen observes that chemicals are constantly released every time we have a thought. Thus, without thoughts of hope, we slip into depression and individuals will have a challenging time generating positive, hopeful thoughts.

In an issue of *Brain Bulletin* (entitled "Science of Hope") Terry Small writes about the research being conducted by neuroscientists on the neurobiology of hope. They have discovered that just being hopeful can actually alter the science of one's brain. Small reinforces the basic findings in the neurosciences that neurochemicals can block pain and accelerate healing. A form of Hope that involves belief and expectation causes the brain to release neurochemicals called endorphins and enkephalins which actually mimic the effects of morphine. As a result, the brain can overcome hurdles and move to a place of healing and recovery when one is intentionally

thinking positive thoughts. In scientific terms, hope and recovery are not causally connected, but they are correlated.

Finally, Dr. Mark George, M.D., a board-certified neurologist and psychiatrist, has devoted his practice to studying and combining clinical neuropsychiatry and neural engineering by studying the relationship between the brain, emotions, and behavior. George was one of the first neuroscientists (during the early 1990s) to use functional imaging and in doing so, George discovered that specific brain regions change when normal emotions are being experienced. Based on George's findings, advances in neuroscience are now made possible through fast imaging methods that allow researchers to take snapshots of the brain in action. Neural engineering images have yielded a new view of the neurological map for emotion, showing regions of emotional activity both in and beyond the limbic system (such as in the insula).

The insula is a structure of the brain that is part of the cerebral cortex. It cannot be ignored when talking about neurobiology and the science of hope. According to A.D. Craig, in "The Anterior Insula and Human Awareness", researchers have provided growing evidence that supports the insula as a special structure involved in the regulation of the body's homeostasis. In conjunction with this regulatory function, the insula plays a role in functions linked to emotion. One can assume that positive thoughts and feelings of hope aid in achieving homeostasis both psychologically and physiologically. The insula is located in the posterior part of the brain—the region that maps the intestines, stomach, esophagus, digestive system, and more.

This localization supports the brain body connection. Neurons in the posterior insula become active when there is a lack of homeostasis in our digestive system. Then our bodies take action to restore homeostasis. The anterior insula is a structure of the brain connected to the frontal lobes and parietal lobes. It has limbic inputs and becomes active when there is a mismatch between our behavior/actions and expectations of ourselves. This is a mismatch that might result in chronic illness. Depression and feelings of guilt are often correlated with anterior insula dysregulation which gives rise to actions that reestablish homeostasis. The anterior insula is also related to subjective feelings like the awareness of error or pain and a feeling of "knowing".

Conclusions

When dealing with chronic health issues, there is real value in understanding not only the psychology of hope, but also ways in which thoughts and feelings of hope affect each of us physically. Scientists have found when individuals are adept at this mindset, hope can strengthen their immune systems and improve resiliency regarding future health issues. Along with this knowledge, neuroscientists have made huge advancements in technology, such as neuroimaging and brain stimulation, that gives us a deeper understanding of how these positive thoughts profoundly assist in healing.

These thoughts generate new neuronal pathways in the brain, and positively affect our physical and mental health. We are discovering that hope is an incredible protector, creating a positive domino effect that leads directly to health and healing. It acts as our very own powerful source of ammunition, as an instantaneous and perhaps prescription-free way of supplying relief and restoring one's own personal power. It is exciting to know that as people intentionally embark on this journey of hope, science is moving right along with them. Now, individuals with chronic illnesses can truly embrace hope for healing and see the light even during periods of darkness.

The Authors

Christy Lewis holds a Masters Degree in Social Work from the University of Texas at Arlington. She is a Licensed Clinical Social Worker (LCSW) and has counseled for a combined 17 years in several clinical and medical settings and has offered career/life coaching for an additional 10 years. Christy is also Board Certified in Biofeedback and Neurofeedback through BCIA, the Biofeedback Certification International Alliance organization. Prior to working in private practice settings, Christy worked in Psychiatric and Rehabilitation hospital settings. Additionally, she worked in career transition/outplacement settings helping clients with their career transition needs. Christy Lewis currently works and is the director at her own private practice setting, The Biofeedback, Education, & Training Center, PLLC, where she combines

counseling with a variety of training modalities to individuals of all ages who need help with issues ranging from severe emotional turmoil to people who are working on taking their personal growth to a higher level. Specifically, she has extensive experience working with kids, teens, & adults who have anxiety, depression, ADHD, frustration/anger issues, behavioral issues, and pain management.

Kendell Munzer earned her Bachelors Degree in Criminal Justice from Curry College. In 2002 she earned her M.A in Counseling from Mercy College. She is currently pursuing her Doctoral Degree in Psychology at The Professional School of Psychology. Kendell works as a part time substitute teacher for the Charleston County School District. The majority of this work is spent working with behaviorally challenged students. She also works part time growing a local Kitchen and Bath business she and her husband have recently opened. Kendell has an extensive background as a Behavioral Specialist and has conducted many staff trainings and seminars. Presently she resides in Mt. Pleasant SC with her husband and two children. When Kendell isn't at work she enjoys, photography, travelling, skiing, and spending quality time with her family.