



Spirituality as a Healing Approach for Substance Use Disorders

By Kimberley L. Berlin, LCSW, CSAC, MAC, SAP

The integration of science and spirituality may seem to be diametrically opposed, but the two areas of study are more complimentary today than at any other time in our history. Science is now proving what spirituality has been speaking to all along.

Today, the world is awash with profound change due to the COVID-19 pandemic, bringing with it fear, anger, confusion, isolation, anxiety, sadness, and loss – a miasma of conflicting and overwhelming emotions. Prolonged non-human-to-human contact or self-confinement within small dwellings can serve as significant emotional triggers for thousands of people. What is slowly coming to light is a potentially catastrophic psychological toll, especially for those suffering from substance use disorders.

This day more than ever, spirituality and science can lead individuals back to well-being, a sense of control, normalcy, centeredness, and calm.

A century ago, the medical community approached the treatment of substance use disorders as a moral failing, or a “sickness of the soul,” and used what we would consider today to be barbaric remedies including ice baths, straitjackets, isolation in padded cells, and electric shock. Fortunately, the scientific world has catapulted our understanding of the disease of addiction to a remarkable extent. Technology has advanced to such a degree that we can now see the effects of substances on the brain with fMRI (functional magnetic resonance imaging) and SPECT (single-photon emission computerized tomography) scans and even correct damaged neural activity through advanced chemistry. The neuroscience of addiction opened doors to understanding this condition. Equally important, it has helped to remove much of the crippling stigma that has burdened many from seeking recovery.

Eighty-five years ago, Viennese psychologist Dr. Carl Gustav Jung, and Bill Wilson, the co-founder of Alcoholics Anonymous (AA), exchanged letters discussing the then-fledgling society. Jung wrote that the craving for alcohol was a “spiritual thirst of our being for wholeness.” He explained: “You see, ‘alcohol’ in Latin is *Spiritus*, and you use the same word for the highest religious experience as well as the most depraving poison. The effective formula, therefore, is: “*Spiritus Contra Spiritum*” (Jung, C., Wilson, B. 1961). The Latin phrase translates to using a spiritual solution to counteract the negative effects of spirits (alcohol). This profound declaration has underwritten the approach to recovery for the

12-Step community for over 80 years. The “spiritual awakening” that is referred to throughout the writings of Alcoholics Anonymous is repeated in stories from recovering persons around the world.

One of the obvious questions in any discussion about spirituality is, “*What is it?*” There is ample confusion between *religion* and *spirituality*, which causes

many to avoid pathways of recovery processes due to misunderstanding the difference between the two. There are no prescribed rules or regulations in a spiritual search; while there are many options for direction, there is no “one way” to achieve this goal. It is not necessary to believe in God to hold spiritual beliefs or live a spiritual life. Atheists and agnostics can engage in spiritual practices because, at a fundamental level, spirituality is “religion-less.” There are no *do*'s and *don*'ts associated with spirituality other than the invitation to live a life of compassion, kindness, caring, calm, and centeredness. This does not mean that one cannot be religious and spiritual but being spiritual does not require a religious orientation. Spirituality is better thought of as a boundary-less dimension of the human experience: in part, it is taking a moment to be outside of ourselves; in part, it is exercising our muscle of awareness.

There are no do's and don'ts associated with spirituality other than the invitation to live a life of compassion, kindness, caring, calm, and centeredness.

A spiritual awakening is not necessarily required for recovery and many individuals do recover by “sheer will” or other approaches that are employed by mainstream treatment. Further, discussions about a spiritual approach to recovery have become mired in misunderstandings about “the God thing,” which has resulted in arguments that hamper a comprehensive examination of how spirituality can help to heal. However, the advances of neuroscience in the past 20 years shows explicitly how spirituality and its associated practices can alter our brains and begin to repair the damage caused by substance misuse.

Brain Science

Our brain, and by extension, our mind, is one of the “last frontiers” of science that humans continue to explore. There are 1.1 trillion cells in the average brain, with over 100 billion neurons receiving 5,000 connections or synapses to each of the neurons. The math is a bit stunning – there are 5 hundred trillion points or links within our skulls (Hanson, 2009). If these were bulbs connected like Christmas lights, they would stretch the distance from Earth to Neptune and back 100,000 times.

Each neuron fires between 5 to 50 times *per second* (Hanson, 2009), transmitting neurochemicals containing information that regulates every process in our being from the movement of a finger to the

complex computation of Einstein’s formula for the theory of relativity. Each signal is moved through the body by our central nervous system, including complex transmissions that regulate our stress responses. This intricate network can quickly be upended by stress, trauma, anxiety, depression, or other mental health issues. Substances used to offset the adverse effects of these conditions further destroys the delicate balance within the brain.

As Daniel Amen, MD, a double board-certified psychiatrist who is regarded as one of the top experts on utilizing brain imaging science to inform clinical psychiatry has noted, “[p]sychiatrists are the only medical specialists that never look at the organ they treat” (Daniel Amen, personal communication, November 9, 2019). Dr. Amen’s “brain bank” consists of over 65,000 SPECT scans reflecting conditions ranging from ADHD, Traumatic Brain Injury (TBI), Post Traumatic Stress Disorder (PTSD), and Substance Use Disorders. These scans show the effects of substances on the brain and can be accessed on the Amen Clinic’s scan library at <https://www.amenclinics.com/spect-gallery/addictions>.

Notably, Dr. Amen’s use of *Four Circles* to brain health was one of the first medical approaches to include a spiritual focus in an individuals’ life. This methodology engages clients through their biological, psychological, social and spiritual factors. Genetics, diet, history of brain injury, support and meaning in life, stressors, thinking patterns, and relationships are all targeted for a personalized care plan. (<https://www.amenclinics.com/the-science/amen-clinics-method/>)

Spiritual Neuroscience

The commonality of ancient scriptures dating approximately 1,500 BCE and our present-day scientifically oriented world is nothing short of astounding. Oral traditions handed down from cultures originating in the Indus Valley offered insights into the nature of the mind, human behavior, and even the creation of the cosmos. Not until the development of neuroimaging technology were these musings found to be startlingly accurate.

During the “mechanistic” era of science, any suggestion outside of its own constraints was scoffed at and scientists risked their careers if they dared to suggest there might be alternatives to how we viewed the mind or consciousness. Researchers Mario Beauregard and Denise O’Leary (2008) stepped outside this prescribed arena and postulated a “Spiritual Brain.” The highly regarded neuroscientists demonstrated the effects of spirituality in our brains with research experiments with Carmelite nuns that showed significant brain changes while they were engaged in prayer and personal communion with God.

Eight years later, neuroscientists Andrew Newberg and Mark Robert Waldman (2016) took the research further analyzing a broad range of spiritual activities across several religions and found even more reliable evidence than their predecessors. Newberg and Waldman laid the foundation for what is now referred to as *Spiritual Neuroscience*.

Researchers such as Daniel Goleman and Richard Davidson underwent a long journey of research that began in the early 1970s to prove what was instinctively known to them after studying in India with Burmese Indian Vipassana master Satya Narayan Goenka (p. 32-35). While their 1970s Harvard experiments were groundbreaking using galvanic skin

response, it would not be until the early 2000s that technology caught up to the teachings of Indus scriptures. As Goleman wrote,

“Modern psychology had not known that Eastern systems offer means to transform a person’s very being. When we looked through that alternate Eastern lens, we saw fresh possibilities. By now, mounting empirical studies confirm our early hunches: sustained mind training alters the brain both structurally and functionally, proof of concept for the neural basis of altered traits that practitioners’ texts have described for millennia” (p. 290).

The work of Davidson, Goleman, Newburg, and Waldman, as well as Rick Hanson, Ph.D., Daniel J. Siegel, M.D., and others, in the field of spiritual neuroscience is affording an opportunity to turn to the validity of spiritual healing for states and conditions related to substance use disorders. To date, there is a marked absence of addiction studies with brain scans and the use of spiritual practices. The implied effects for addiction treatment may encourage scientists to turn to this vital area of research.

Understanding how and why basic spiritual practices such as meditation, breath exercises (Pranayama), and chanting (Mantra) change critical areas of the brain is the first step in utilizing these techniques with clients to guide them toward a comprehensive approach to recovery. The practices focused here are found in the Yogic tradition; however, all spiritual approaches achieve the same results from a neurological perspective. Christian prayer and hymn, Judaic devotion and *Zemirot*, Islamic prayer, and *Na’at* have been included in Newburg and Waldman’s research and shown to have significant results on critical areas of the brain. These include changes in EEG readings and resting

brain metabolism, as well as changes in the brain’s blood flow and brain electrical activity. Critical areas such as the Prefrontal Cortex (PFC), the Cingulate Gyrus, the Thalamus, Hippocampus, and amino acid neurotransmitters such as GABA (gamma-aminobutyric acid) and Norepinephrine are all shown to be positively affected.

Newburg (2012), found that individuals who engaged in prayer (Christian, Judaic, Islamic, Hindu) had significant positive changes in their Cingulate Gyrus (which regulates the process of focus) and the Thalamus (which governs the flow of sensory information). His research also showed that GABA increased during these spiritual practices. The presence of GABA produces a calming effect, which is linked to reduced stress, fear, and anxiety, as well as improved sleep patterns. Newburg’s findings indicated that in addition to the other benefits of prayer and spiritual practice, GABA increase subsequently reduces “excitability” in practitioners’ nervous systems. Further, dopamine levels increased significantly in individuals who practiced Yoga Nidra, a full-body technique of progressive muscle relaxation that is directed by a trained teacher for anywhere between 30 to 90 minutes.

In the Kundalini Yoga tradition, the commitment to a daily discipline of practice holds the promise to practitioners for a life-altering experience. Known as *Kundalini Awakening*, the effects range from awareness of internal energies, intuition, and “inner truth” to increased compassion, desire to be of service, and a sense of purpose.

Spirituality is better thought of as a boundary-less dimension of the human experience.

The practice includes physical engagement in yoga, prayer (recitation), meditation (contemplation), and chanting (song). Research by Garcia-Sesnich et al., (2017), found that stress hormone levels of cortisol were “markedly reduced in those participants who practiced Kundalini Yoga regularly for three months” (p. 77).

Breath and Vocalization

Known as “Pranayama,” breath exercises have formed the basis of meditation instruction for millennia. The Upanishads (circa 1500 BCE) extol breath as the essence of the body and connection to the self or consciousness. Breathing is the life-supporting nourisher of our beings. Taking conscious breaths automatically engages the Parasympathetic Nervous System (PNS), and augments dopamine production in the brain.

Simple techniques include slow intake of breath through the nostrils, holding the breath for a few counts, and then a slow but longer exhalation of the breath via nostrils, repeating for a minimum of ten breaths.

Alternate nostril breathing where one nostril is closed by a thumb or forefinger and inhaling through the open nostril is an ancient technique that has a direct impact on the PNS — alternating the right to left nostril balances the brain hemispheres and affects levels of Noradrenaline (NE). This monoamine is part of the body’s “fight or flight” system that increases heart rate and blood pressure. Studies have consistently found that NE levels are lowered when individuals engage in breathing exercises and other mindfulness techniques (Hanson, 2009; Newburg, 2012; Garcia-Sesnich, 2017).

The production of musical sounds using the voice has been employed since the dawn of humankind. Vocalization of tribal chants, hymns, incantations, and call and response, to name but a few, have held significance to civilizations past and present. Neuroscientist James Hartzell, Ph.D., (2018), a Sanskrit specialist, researched claims of the efficacy of mantra by studying Thai monks who had entered the monastery in childhood and spent eight to ten hours a day in meditation and mantra practice were recruited. Their recitations were all from memory, including complex stanzas from ancient texts, some of which takes six hours from start to finish. When Hartzell scanned the monks’ brains using MRI, he found that over ten percent of grey matter across both cerebral hemispheres showed substantial cortical thickness compared to controls (2018, para 5). This translates to higher functioning of brain areas and indications of structural changes that result from learned behaviors. The hippocampus, responsible for memory, also showed significant thickness, reflecting the ability for “accurate recitation, precise sound pattern encoding, and reproduction” (2018, para 6).

Techniques in Counseling

As counselors, therapists, or coaches, adopting some form of spiritual practice helps to offset the accumulated stressors of our profession. This, in turn, translates to our being of better assistance to our clients. A daily meditation practice of ten minutes, employing breath techniques to regulate our parasympathetic system, or any exercise that connects us to our higher self falls under the rubric of spirituality.

Spiritual practices are not solely defined as meditation, prayer, or hymn. Connecting outside of ourselves through walking, cycling, running, journaling, drawing, playing music, or gardening gives rise to the opportunity for much-needed self-care.

Beginning a counseling session with an invitation to take a few moments to focus on the present moment is a first step in offering techniques directly to the client. Sitting together with eyes closed, a therapist can guide the client to *breathe in* through the nostrils using a count of four, *hold the breath* for two counts, and *exhale through the nose* for a count of six, repeating the technique for one to two minutes. This simple *Pranayama* technique will engage the PNS and increase dopamine production, reduce activity of the Sympathetic Nervous System (SNS) by lowering adrenaline and cortisol output.

Teaching clients how to meditate or guiding them to resources where they can learn and engage in daily practice is an important direction to offer individuals who are either in early recovery, struggling with cravings, or seeking a more meaningful experience in their path of recovery. There are countless apps on the market, many for free, that have been created to bring the connection to self.

Our world, our country, our communities, and even our own families are undergoing one of the most upending, convulsive changes of any generation. Mass media, social media, and regular conversations are amplifying the dangers that appear in the face of the global COVID-19 pandemic, as millions are affected. More than ever, “control” seems to be lost entirely, and we yearn for normalcy and a return to centeredness and calm.

In the words of Thomas Hora, founder of 20th Century Metapsychiatry, “All problems are psychological, but all solutions are spiritual.” (Hora, n.d.) The science of spirituality – like the great scientists who will soon find a vaccine for this pandemic – can serve as our emotional vaccine.

REFERENCES

- Beauregard, M., O’Leary, D. (2007). *The Spiritual Brain: A Neuroscientist’s Case for the Existence of the Soul*. New York, NY: Harper One - Harper Collins Publishers.
- Goleman, D., Davidson, R. (2017). *Altered States: Science Reveals How Meditation Changes Your Mind, Brain, and Body*. New York City, NY: Penguin Publications.
- Garcia-Sesnich, J.N., Flores, M.G., Rios, M. H., Aravena, J.G. (2017). Longitudinal and Immediate Effect of Kundalini Yoga on Salivary Levels of Cortisol and Activity of Alpha-Amylase and its Effect on Perceived Stress. *International Journal of Yoga, 10(2)*, pp. 73-80. https://doi.org/10.4103/joy.IJOY_45_16
- Hanson, R. (2009). *Buddha’s Brain: The Practical Neuroscience of Happiness, Love, and Wisdom*. Oakland, CA: New Harbinger Publications, Inc.
- Hartzell, J. (2018). A Neuroscientist Explores the “Sanskrit Effect.” *Scientific American: A Division of Springer Nature America, Inc.* Jan 2, 2018. Retrieved from <https://blogs.scientificamerican.com/observations/a-neuroscientist-explores-the-sanskrit-effect/>
- Hora, T. (n.d.) *The Meta View*. Retrieved from <https://www.themetaview.com/dr-thomas-hora-md>
- Jung, C. G., Wilson, B. (1961). “Carl Jung’s Letter to Bill Wilson.” Retrieved from https://silkworth.net/pages/aahistory/general/carljung_billw013061.php
- Newburg, A. (2012). Transformation of Brain Structure and Spiritual Experience. In L. J. Miller *The Oxford Handbook of Psychology and Spirituality* (pp. 489-499). Oxford, England: University of Oxford Press.
- Newburg, A., Waldman, M.R. (2016). *The New Science of Transformation: How Enlightenment Changes Your Brain*. New York City, NY: Penguin Random House.
- Siegel, D.J. (2018). *Aware: The Science and Practice of Presence. The Groundbreaking Meditation Practice*. New York City, NY: Penguin Random House.



Kimberley L. Berlin, LCSW, CSAC, MAC, SAP, is the owner of *Compassionate Beginnings, LLC*, a private therapy practice in Leesburg, Virginia. Her work focuses primarily on the treatment of addiction and underlying causes and conditions ranging from anxiety and depression to trauma or early childhood abuse. Using Eastern philosophy merged with Western science Kimberley is a trained Level 1 Internal Family Systems (IFS) practitioner. She includes yoga, breath work and meditation with all her clients. Kimberley is also a public speaker and author. She lives in Virginia with her husband and three rescue dogs.