

## **The Biopsychosocial Benefits of Spirituality as a Complement of Evidence Based Treatment for Substance Use Disorder**

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### **Abstract**

Spirituality has been used for many years as a modulator of treatment for Addiction Treatment Centers, especially third sector organizations and faith-based community centers. Evidence suggests that the Pre-Frontal Cortex is linked with spirituality/religion experiences. Spirituality has been linked to addiction recovery, and has been used by 12 step programs for decades. Several studies associate higher frequency of spirituality among individuals in recovery and lower levels of cravings and depression, elevating protective factors among patients. Moreover, research suggest that addiction patients can benefit from spirituality developing coping skills such as healing, resilience, better quality of life, and forgiveness (towards others and self). The biopsychosocial model of addiction addresses the biological or genetic, psychological, and sociocultural variables of the disease, using the available scientific evidence to treat the person (Skewes &

Gonzalez, 2013). The use of spirituality may be only used in patients who share religious/spiritual beliefs, if imposed the benefits will not be necessarily present.

*Keywords:* spirituality, substance use disorder, addictions, biopsychosocial

### **Resumen**

Por muchos años la espiritualidad ha modulado los servicios ofrecidos en centro de tratamiento para las adicciones, especialmente organizaciones del tercer sector y centros comunitarios con base de fe. La evidencia científica sugiere que la Corteza Pre-Frontal está ligada con las experiencias espirituales/religiosas. La espiritualidad ha sido asociada con la recuperación de la condición de adicción, y por décadas ha sido utilizada por programas de 12 pasos. Varios estudios asocian altos niveles de espiritualidad entre individuos en recuperación y bajos niveles de insidia y depresión, elevando los factores de protección entre los pacientes. Estudios sugieren que los pacientes con problemas de adicción pueden beneficiarse de la espiritualidad desarrollando destrezas de afrontamiento tales como sanación, resiliencia, mejor calidad de vida, y perdón (hacia otros y a sí mismo). El uso de la espiritualidad debe utilizarse sólo en pacientes que comparten creencias religiosas o espirituales. De ser impuesto, los beneficios no necesariamente estarán presentes.

*Palabras claves:* espiritualidad, trastorno uso de sustancias, adicciones, biopsicosocial

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The epidemic use of substances with resultant morbidity and mortality, has created a public health crisis not only for the United States, Puerto Rico and the Virgin Islands, but worldwide. To be effective, treatment must be individualized and address all dimensions of life. The evolution of the biopsychosocial model for treating substance use disorders, SUDs inclusive of spirituality is a matter of

great importance to the authors. But what is spirituality? Is it a real thing and if so, how can it be useful in the evidence-based treatment of patients with substance use disorders? While the English word spirit from the Latin *spiritus*, meaning breath, is clear and straightforward, the precise nature of spirit has remained intangible or immaterial, but it need not defy defining. Dictionaries define spirituality with phrases like “concerned with or affecting the soul,” “not tangible or material,” or “pertaining to God”. Spirituality linked to addiction recovery has been used by 12 step programs for decades and has been used for many years as a modulator of treatment for Addiction Treatment Centers, especially third sector organizations and faith-based community centers. Mohandas (2008) referred to the spiritual realm as that which deals with the perceived eternal realities regarding man's ultimate nature, in contrast to what is temporal or worldly (2). In this context or frame spirituality involves as its central tenet a connection to something greater than oneself, which includes an emotional experience of religious awe and reverence. Spirituality is therefore an individual's experience of and relationship with a fundamental, nonmaterial aspect of the universe that may be referred to in many ways – God, Higher Power, the Force, Mystery and the Transcendent and forms the way by which an individual may find meaning as it relates to life, the universe and everything therein, including self.

We are interested in the defining of spirituality in scientific terms and the search for new scientific evidence for the inclusion of daily spiritual practices as tools for wellness. We recommend the systematic inclusion of spiritual evidence based practices as wellness tools for the promotion of long-term remission from substance use disorders. Fragmented and incomplete approaches to treatment of SUDs are ineffective. This article is meant to encourage the inclusion of spirituality in the biopsychosocial model based on published neuroimaging evidence and supported by correlation with evidence-based practices.

Evidence suggests that spirituality and so-called religious experiences are linked to the Pre-Frontal Cortex. Spirituality plays a

major role in 12-step programs and addiction treatment centers, especially third sector organizations and faith-based community centers as a modulator of therapy for decades. Studies that associate higher frequency of spirituality among individuals in recovery and lower levels of cravings and depression, elevating protective factors among patients. Several studies of patients receiving treatment for addiction report a benefit from spirituality in the development of coping skills such as healing, resilience, better quality of life, and forgiveness towards others and self. Spiritual practices are sometimes rejected when working with patients with opposing religious beliefs such that if imposed the benefits will not be necessarily present. Never the less the presentation of spiritual based strategies used in conjunction with the biopsychosocial model in our experience complements the recovery process particularly when applied to patients with histories of problematic substance use impacted by trauma.

America is in the midst of an alcohol and drug addiction crisis. Opioid overdose deaths are only part of America's substance abuse crisis. Unhealthy alcohol use in the United States has accounted for 1 in 10 deaths among working-age adults (2006-2009) shortening lives by an average of 30 years (2,3). Almost a third of the population meets the criteria for *DSM-5* alcohol use disorder at some point in their lifetime. The prevalence of *DSM-5*, 12-month alcohol use disorder prevalence 7.3% mild + 3.2% moderate and 3.4% severe = 13.9%. Lifetime prevalence is 29.1%, with 8.6% having mild, 6.6% moderate, and 13.9% severe lifetime alcohol use disorder. Sadly, only 7.7% of individuals diagnosed 12 months with AUD received treatment.

For thousands of years substance use, addiction and treatment has been greatly influenced by religious beliefs (O'Brien, 1980), however; as a central strategy for rehabilitation the process has at times ignored scientific literature and or suppressed those of “deviant faiths.” In 1641 Nicolaes Tulp, a Dutch physician depicted adapted theological models to explain the loss of medical explanations. The Qur'an warns against both wine (*khamr*) and gambling (*maisir*) in the same sura (2,219).

Support groups with 12-Step Facilitation (TSF) programs use spirituality as a tool to facilitate, model and increase the probability of making the biopsychosocial changes necessary to maintain total abstinence. In these groups total abstinence is used as the measure of treatment outcome. Studies suggest that spiritual work in TSF programs predicted abstinence in Alcoholics Anonymous (AA) participants (Greenfield & Tonigan, 2012). Using the term “spirituality” as a measure of treatment outcome obviates the necessity to differentiate it from any inferred connection with religion. Religion is an organized system of beliefs, practices, rituals and symbols designed to facilitate proximity to the sacred and transcendent, such as god, or a higher power. Spirituality refers to an individual’s personal search for understanding of or relationship with a sacred and transcendent meaning of life (Koenig, McCullough & Larson, 2001). Spirituality, when presented as a set of principles to be practiced and maintained, might serve as a motivation for transcendence of cognitive distortions that otherwise create limitations on assessment of human, value self-worth, dignity and ultimately wellness and potential for wellbeing in the face of undeniable biopsychosocial decline. For this article we are conceptualizing spirituality as the belief in a general greater power, or wisdom that may be called god, or any other name. we understand that this belief of greater power has some active elements in promoting fellowship and belonging to a more inclusive and idealized “supreme family” or community with a common transcendent purpose of serving others.

In this article we present a review of evidenced based treatment methodologies to support the hypothesis that including spirituality as a broad term in the biopsychosocial model for treatment of SUD’s will provide additional useful tools to achieve recovery for our patients and concerned others with whom they are encouraged to share spiritual practices with daily. We propose the use of Spiritual Practices for the development of coping mechanisms achieved through spirituality. The inclusion of the previous approach can help close the gap between providing care and obtaining results by the adoption of lifelong spiritual

practices. With these Spiritual Practices, patients can develop several coping mechanisms that can be associated with recovery such as healing (Puchalski, 2001), resilience, better quality of life, (Margarita-Quinceno & Vinaccia, 2011) and forgiveness (towards others and self).

Spirituality has been linked to different types of recovery which emphasizes the achievement of positive and meaningful experiences (McCrary & Tonigan, 2014). Several studies associate higher frequency of spirituality among individuals in recovery and lower levels of cravings and depression, elevating protective factors among the patients (Galanter et. al. 2013). Coping skills derived from spirituality and religion may have been underutilized throughout the years, and may be useful to capitalize to facilitate behavioral change. Studies suggest that levels of spirituality have been associated with length of sobriety (Pardini et. al. 2000). Other studies have shown that participants recognized internal conflicts between consuming drugs and practicing religion or spirituality (Heinz et. al. 2010).

### **The Biopsychosocial Model of Addiction**

Addiction is defined by the National Institute on Drug Abuse (NIDA, 2018) as a chronic, relapsing disorder characterized by compulsive drug seeking and use despite adverse consequences. These negative consequences refer to psychological distress and social difficulties led by the continued substance abuse. As many other diseases, addiction can be lethal if left untreated; it can alter or diminish the individuals’ functionality. The biomedical model conceptualizes the addiction as an imbalance in biochemical or neurophysiological processes (Skewes & Gonzalez, 2013), neglecting the influence of psychological and sociocultural factors. The biopsychosocial model of addiction addresses the biological or genetic, psychological, and sociocultural variables of the disease, using the available scientific evidence to treat the person (Skewes & Gonzalez, 2013).

Evidence provides important information indicating that individuals with addiction suffer from a progressive structural and functional disruption in brain regions responsible for the processes of motivation, reward, and impulse control (Volkow & Warren, 2014). The interaction of biological and genetic predisposition and environmental factors increase the risk of SUD's (Skewes & Gonzalez, 2013). Regions of the Pre-Frontal Cortex (PFC) that mediate inhibitory control and executive functioning are selectively damaged with alcohol and substance use and abuse resulting in poor decision making which can lead to the development of the addiction (Volkow & Warren, 2014).

Classical and operant conditioning play important roles in the development and maintenance of the addiction. Classical conditioning states that an unconditioned stimulus (the substance) produce an unconditioned response (psychomotor agitation). Neutral stimulus (people, places and things related to drug use) and unconditioned stimulus are presented jointly, resulting in a conditioned response (psychomotor agitation and craving) to the now named conditioned stimulus (people, places and things). Operant conditioning conceptualizes addiction as a constant process of positive and negative reinforcement, and punishment (Skewes & Gonzalez, 2013). For example, drug use causes an activation in the limbic and reward system of the brain (Beveridge & Roberts, 2014). This activation causes a pleasurable state in the individual which is a positive reinforcement increasing the likelihood that the behavior will be repeated. Also, people use substances to avoid emotional turmoil, manage stress, and to alleviate or avoid negative symptoms of withdrawal. All functioning as positive and negative reinforcements, and punishments, making continued substance use and abuse more probable. Positive parental attitudes towards substance use and perceived parental approval of illicit drug use have been positively associated with alcohol consumption in adolescents and drinking problems. Also, peers influence in drug consumption and relationship with spouses and intimate partners affect adults and adolescents (Skewes & Gonzalez, 2013).

Social perceptions influence the individual and their addiction directly. The social process in which an individual is marked with a perceived attribute resulting in a devaluation is known as stigma (Luoma, 2010). Public stigma is a general social opinion towards a specific group with shared characteristics, including stereotypes, judgments and discrimination (Corrigan, 2002). The final stage of stigma, is the internalized or self-stigma, which is the individuals' perception about the self, resulting from identification with a stigmatized group, preventing the person from seeking treatment for mental health disorders and addiction (Luoma et al., 2008; Szczesniak et al., 2018) Finally, in spouses and intimate partners, heavy drinking and drug use in one partner predicts heavy use in the other. However, marriage can also be a protective factor if the other partner does not present a substance use/abuse (Skewes & Gonzalez, 2013).

### **The Role of Spirituality in Addiction Treatment**

Amongst the myriad reasons cited by healthcare professionals for their chosen careers is the desire to help people in need. For this purpose, medical social and pastoral sciences come together to design biopsychosocial interventions for multiple disorders, whether physical or mental. The scientific study of spirituality and its inclusion in mental health and substance abuse recovery are not new. In 1992 Pascal described alcoholism as a spiritual disease requiring attention to one's connection to a Higher Power. Florentine and Hill published findings in 2000 that the application of a spiritually based 12-step program with drug treatment increased recovering individuals' chances to remain abstinent and achieve long-term results. Others have defined addiction as a spiritual disease requiring a connection with a higher power (Amato & Szydlowski, 2015). In contrast to the argument for the inclusion of spirituality in treatment services some faith-based treatment centers that have indulged in excessive religiosity for addiction treatment abused and humiliated their participants and in so doing created obstructive barriers to treatment services (Upegui Hernández & Torruella, 2015).

The human brain's frontal lobes potentiate learning processes including problem solving, use and development of tools and language. If there's one thing that distinguishes humans from other animals, it's our ability to use language. Researchers have used proxy indicators for symbolic abilities, such as early art or sophisticated tool making skills. From the anthropologic studies of human early ancestors, the use of language as a tool lead to the manifestations of art, creativity and spiritual experiences. There is considerable evidence from functional neuro-imaging studies of many spiritual practices to suggest a role for the Pre-Frontal Cortex (PFC) in the mediation of spiritual and religious experiences. Thus, the PFC has a crucial role in generating adaptive responses to ambiguous experience by the virtue of homeostatic regulatory. It is proposed in several scientific papers that a balanced function of the medial PFC is needed to maintain balanced religious or spiritual activities (Mahondas, 2008; Cristofori, 2016; Xuzhou et. al. 2019). In a survey conducted in Australia, examining the relationship between spirituality, religiosity and self-efficacy, 75% of participants of a residential treatment reported that spirituality and religious faith were an important aspect of the treatment program (Mason, Deane, Kelly & Crowe, 2009). Studies have positively correlated spiritual well-being and abstinence self-efficacy up to 3 months follow-up after outpatient treatment (Piderman, Schneekloth, Pankratz, Maloney & Althuler, 2007; Gordon et al., 2006).

Prochaska & DiClemente (1983) stated that change occurs in certain stages (Precontemplation, Contemplation, Preparation, Action, Maintenance, and Termination), each with a unique challenge. These stages can be used to motivate patients through addiction treatment. Pargament (2013) argues that spirituality is the most fundamental function of religion, that is, an important, irreducible motivation and process in and of itself.

## **Spiritual Coping Skills**

Using spirituality-focused interventions a person in addiction treatment can develop specific coping skills to address the biopsychosocial and spiritual difficulties that allow him to be closer to the desired treatment goal. Using spirituality in therapy can help patients address addictive behaviors that sometimes trace back to maladaptive religious beliefs. Any tool or practice that prevents or alleviates stressful life events can be used to facilitate problem resolution and reduces the negative consequences of relapse. (Pargament, 1997). We seek to evoke, discuss, develop and understand how to expand an ever-increasing array of biopsychosocial and spiritual tools to enhance coping skills for the recovery of patients, families, communities and societies effected by SUD's.

## **Healing**

Healthcare professionals have traditionally used a linear model of thinking wherein a person expresses a conglomerate of symptoms, and those symptoms are categorized into a clinical diagnosis (Mozdzierz, Peluso & Lisiecki, 2009). The work seems easy, we treat the symptoms therefore we cure the patient, commonly perceived as recovery, or a state of remission which is a resolution of symptoms. Spirituality emphasizes the achievement of meaningful experiences (McCrary & Tonigan, 2014) and acceptance of illness and peace with one's life, achieving healing (Puchalski, 2001). Healing and wellness are broader terms that seek to develop an understanding of life with the disorder, and acceptance of the changes needed to maintain goals and evade relapses. Through the emphasis of healing and wellness as opposed to recovery we intend to give the patient a different meaning of the illness, learn how to understand the effects of the disorder and empower the patient to regain a more enduring control of his or her life. Patients with SUD's tend to feel powerless to their life's circumstances. Healing can be gained through spirituality and self-care, which at times it is not the

most important thing for people with SUD's (University of Utah Health, 2019).

### **Resilience**

In many cases, trauma is a catalyst for substance use and other serious mental health issues. People that don't have the wellness tools to tolerate uncomfortable circumstances often suffer from addiction because they tend to avoid stressful situations. Many people with addiction use substances, trying to numb out pain experienced while having a wide range of emotions. A recent study (Siddiqi & Jahan, 2018) established a positive correlation between spirituality and resilience. Researchers have found similar protective factors in spirituality and resilience (Crawford, Wright & Masten, 2006). Resilience is defined as, "the ability to recover from or adjust easily to misfortune or change" (Merriam-Webster Online, 2019). Spirituality and religion promote the development of resilience by helping them build healthy relationships, by closing the gap of social support, developing moral values and healthy behavior, and offering opportunities for personal growth. Psychological interventions using spirituality are aimed to enhance resilience using mindfulness, facilitating social interactions for a better social support. These set of skills can help people cope with stress and prevent the onset of substance consumption (Alim et.al. 2012).

### **Quality of Life**

People who come to therapy with SUD's are often searching for a better quality of life (QOL). This is can be voluntary or involuntary, but either way is due to overwhelmingly negative consequences that arises with the SUD. These consequences always involve some combination of the biological, psychological, sociological or spiritual aspects of the individual. Always the goal of treatment is to improve patient's QOL and often to address public health concerns. Spirituality should not be underrated in its value and potential for positive improvement in QOL. Although there is no universally accepted

biomedical definition of health related QOL, it refers to the subjective assessment of influences from the present state of health, sanitary health care, and promotion of health over the individual capability to achieve and maintain a global level of functionality that allows them to follow those activities deemed important for the individual and affects their general state of wellbeing (Margarita-Quinceno & Vinaccia, 2011).

SUD's as defined by the American Psychiatric Association (2013) are a cluster of cognitive, behavioral, and psychological symptoms indicating that the individual continues using the substances despite significant substance-related problems. This definition states that substance-related problems are a significant aspect of the disorder, hence the relevance of QOL improvement. Studies suggest that people with SUD's who seek and adhere to treatment obtain a better overall QO (Laudet, 2011).

Another study researching the role of emotion regulation in the relationship between spiritual health and QOL found a direct effect of spiritual health on QOL, suggesting a strong connection between these two concepts (Akbari & Hossaini, 2018). Considering this, clinicians should strengthen spirituality in patients with spiritual/religious beliefs in order to promote a better QOL. Combining spiritual health with adaptive emotion regulation strategies can help patients achieve a better QOL, concluding that spiritual health is one of the most important predictors of QOL and mental health (Laudet, 2011).

### **Forgiveness of Self and Others**

The 8<sup>th</sup> and 9<sup>th</sup> steps of Alcoholics Anonymous (AA) refer to harms done and willingness to make amends. (Bill, 1971). This step exists because many people with SUD's behave in ways harmful to people sometimes including those they care about. They can steal money and belongings to obtain drugs, deceive loved ones, be aggressive towards family and children, among others. They also may have used illegal activities to maintain the impulsive need drive for

consumption of substances. These activities might include prostitution, robbery, drug dealing, etc.

As previously mentioned, trauma is often part of the past for people with SUD's. These persons have suffered many times from physical, emotional and sexual abuse, by family members, spouses, and others. People who have experienced child abuse, criminal attack, disasters, war, or other traumatic events turn to alcohol or drugs to help them deal with emotional pain, bad memories, poor sleep, guilt, shame, anxiety, or terror (International Society of Traumatic Stress Studies). Trauma refers to an intense and overwhelming event that surpasses the persons coping skills. These traumatic experiences and the patients' reactions can be better understood in the light of spirituality. Although forgiveness is argued to be relevant to the treatment of SUD's, there is little empirical evidence to support it. However, a study (Webb et. al. 2008) found that forgiveness towards others and self were associated with fewer drinking consequences. Forgiveness towards self may be most difficult to achieve and thus must important to recovery. It is important to extend research in this area to confirm or deny the influence of forgiveness as a therapeutic benefit of spirituality.

### Conclusion

The Engel biopsychosocial model inclusive of the spiritual dimension is essential to the understanding and effective treatment of the phenomenon of addiction. We have detailed an understanding of how spirituality when used as part of a therapeutic approach to addiction has been linked with better rehabilitation outcomes. Clinical benefits can be gained using the patient's own beliefs, taking care to avoid the imposition of stringent dogma, religious beliefs and traditions. Through the therapeutic use of wellness tools that incorporate spiritual practices, patients may be able to develop better neuropsychological tools used to increase recovery and wellness. Further studies are needed to examine the role spirituality plays to

improve healing, resilience, quality of life, and forgiveness (towards others and self) in persons with SUD's.

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