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Spirituality and Addiction: A Research and Clinical Perspective

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Spirituality is a construct that has recently gained currency among clinicians because of its close association with twelve-step modalities and its perceived role in the promotion of meaningfulness in recovery from addiction. This article draws on studies from physiology, psychology, and cross-cultural sources to examine its nature and its relationship to substance use disorders. Illustrations of its potential and limitations as a component of treatment in spiritually oriented recovery movements like Alcoholics Anonymous, meditative practices, and treatment systems for the dually diagnosed are given. (Am J Addict 2006;15:286–292)

INTRODUCTION

Dictionaries define spirituality with phrases like "concerned with or affecting the soul," "not tangible or material," or "pertaining to God";[1] in practice, it is experienced subjectively by any given individual. Though not grounded in empirical science, this concept is relevant to addiction because it infuses the therapies that, address symptoms like anxiety, depression, and maladaptive substance use. Kendler et al.[2] studied religiosity in a large sample of twins and found an inverse relationship between certain aspects of religiosity and a lifetime history of substance use disorders. With regard to the recovery from addiction, the prominence of Alcoholics Anonymous and related twelve-step groups illustrates an important role in the rehabilitation of substance-dependent people. On the basis of findings drawn from diverse, empirically grounded disciplines, it is now possible to better understand the construct of spirituality. This will then enable researchers and clinicians to enhance their efforts in improving addiction treatment.

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UNDERSTANDING SPIRITUALITY

The issue of spirituality is prominent in contemporary culture: in a probability sampling of American adults, 95% responded positively when asked if they believe in "God or a universal spirit." Responses to a follow-up question suggest that this belief affects the daily lives of the majority: (51%) of those sampled indicated that they had talked to someone about God or some aspect of their faith or spirituality within the previous 24 hours.[3]

In Contrast with Religion

Spirituality can be classified as a latent construct, such as personality, culture, and cognition, that is not observed directly but inferred from observations of its component dimensions.[4] Some investigators have drawn distinctions between spirituality and religion. In one study, respondents identifying themselves as more spiritual saw God as more loving and forgiving, while those who assessed themselves as more religious saw God as more judgmental.[5] The fellowship of Alcoholics Anonymous is often described as "a spiritual program for living,"[6] where "there is no dogma, theology, or creed to be learned."[7]

When considered from the perspective of its role in organized religion, spirituality is culture-bound, even among Western post-industrial societies. In Sweden, where religious practice had once been an important aspect of the national culture, only 10% of the population indicated that religion is important to them, and fewer than 5% go to church each week.[8] This stands in clear contrast to the United States, where these figures are many times higher (87% and 41%, respectively).[3]

Relationship to Symptomatology

The construct of spirituality is related to psychiatric symptomatology in important ways. Long before this construct gained currency, Durkheim[9] recognized religion (ie, spirituality grounded in doctrine) as vital in assuring psychological well-being and observed that the disruption

of the social fabric resulted in an increased incidence of suicidality. More recently, Kendler et al.[10] found that religious devotion (but not institutional religious conservatism) buffered against the depressing impact of stressful life events. The present author found that the experience of engagement into a spiritually oriented cultic group relieved recruits' anxiety and depression.[11] Tonigan et al.[12] analyzed the findings of Project MATCH,[13] a large-scale study on the outcome of alcoholism treatment, and found that measures of involvement in the spiritual fellowship of Alcoholics Anonymous during outpatient treatment accounted for a significant portion of the variance (28%) in positive drinking outcome. They also found that AA involvement during treatment was more highly correlated with positive drinking outcomes than was client motivation for recovery prior to treatment.

BIOLOGICAL ISSUES

Spirituality offers people a way to avoid uncertainty, and some physiological findings can shed light on the way this takes place, lending heuristic value to its study. Schacter and Singer[14] administered epinephrine to subjects to produce a state of arousal and found that the nature of the social stimuli they presented determined the subjective experience elicited: a dysphoric context yielded malaise, while a pleasant one produced euphoria. Rather than experiencing a state of uncertainty in response to a non-specific physiologic state, subjects had drawn on their environment to frame their affective response. Gazzaniga and associates[15] studied patients with severed corpus callosums. When these patients were asked to explain different visual cues presented simultaneously to each respective hemisphere, they gave responses that integrated the nature of the two stimuli, thereby avoiding the uncertainty of producing two conflicting separate responses. In this case, the brain produced a consciously perceived confabulated conclusion rather than sustaining a state of uncertainty.

The nature of cerebral interpretive processes that deal with disparate input is further illustrated by the production of dream imagery. Hobson et al.[16] developed a model of dreaming that involves the activation of specific centers in the pons for hallucinosis and in the amygdala and other limbic structures for intense affect. Simultaneously, other centers in the dorsolateral prefrontal cortices associated with self-awareness and insight are deactivated. Here again, a possible state of uncertainty is avoided through the production of an integrated response, however unlikely it may be by everyday rational standards.

Evidence is emerging for the localization of spiritually related experiences in specific brain sites. The stimulation of a specific site on an epileptic patient's right angular gyrus resulted in somatosensory experiences comparable to kinesthetic and perceptual ones of bodily distortion associated with out-of-body, spiritually related practices.[17] Additionally, a unique relationship has been observed between the 5-HT_{1a} receptor density in the forebrain, as recorded by positron emission tomography, and the trait of spiritual acceptance, as measured by a standardized personality inventory.[18] These findings are compatible with the models of physiologically grounded character traits developed by Cloninger et al.,[19] such as self-transcendence.

The socially grounded affiliation that can bind together members of a religious group has a counterpart in analogous behavior among lower primates. Monkeys experience behavioral and physiological consequences similar to human depressive states when subjected to prolonged separation from their agelings.[20] The affected monkeys were found to be rehabilitated either by association with appropriate members of their species or by physiologically grounded treatment with a tricyclic antidepressant.[21,22] Inferences from genetic studies also support a biological basis for sociality, wherein, for example, 43–75% of the variance in responses to measures of social support in identical twins was found to be attributable to genetic loading.[23]

One can extrapolate from the biology of individuals to that of the species as a whole by looking to sociobiology, which employs models drawn from population genetics to explain how a trait can be sustained over evolutionary time. Thus, religious affiliation is often associated with the trait of altruism, even though altruistic behavior may compromise the survival of a given individual and thereby decrease the likelihood of their passing the genes related to that trait on to their progeny. Wilson,[24] however, drew on the concept of *inclusive fitness* to explain the persistence of man's valency for religious affiliation. He pointed out that such behavior promotes collaborative acts within a given group of related kin that carry the trait, thereby enhancing their chance for survival and hence the transmission of that trait to ensuing generations. Such altruism is exemplified in the mutuality observed in the spiritual fellowship of AA.

Altogether, research drawn from a variety of different sources suggests that the subjective experiences associated with spiritual or religious phenomena can potentially be understood in terms of related biological mechanisms.

A PSYCHOLOGICAL PERSPECTIVE

The paradigms on which contemporary psychiatry is based do not readily lend themselves to the consideration of spirituality as an empirically validated component of mental function, and this suggests why this construct has been slighted by members of the psychiatric research community. The Kraeplinian model of mental disorders[25] was influenced by the positivist approach drawn from the physical sciences and promotes a nosology of mental illnesses based on observable phenomena. Spiritual experiences, on

the other hand, which are not amenable to direct observation or measurement, are not readily studied from this perspective. Freud's orientation toward empiricism, influenced by European philosophers like Hegel and Schopenhauer, questioned the underpinnings of religious thinking. His inclination to view religion as a mass delusion left little place for a spiritual approach to psychology.[26] Addiction psychiatry today is increasingly applying new pharmacological and psychosocial technologies, and may thereby become less oriented toward an approach to rehabilitation that is spiritually oriented.

Another psychological tradition, however, that is quite different from the positivist approach is premised on the validity of spiritual experience as articulated by William James,[27] who derided "medical materialism" as falling short in explaining the nature of religious experiences. The mental model put forth by Jung was associated with spirituality, as evident in his postulating a collective unconscious containing archetypes acquired by humanity through shared experience over the centuries.[28] Both James's and Jung's perspectives on psychology were influential in legitimizing the role of spirituality embodied in Alcoholics Anonymous. Bill W., AA's co-founder, had read James and corresponded with Jung; both of his predecessors had emphasized that alcoholics were seekers, usually of God or serenity, in attempting to relieve emotional distress.[29]

In the domain of psychological research, Allport[30] was respectful of both positivist empiricism and the Jamesian perspective of introspection and approached spirituality with empirically grounded research. He distinguished between intrinsically and extrinsically oriented religious orientations—that is, between those that draw on internalized beliefs (associated with spiritual experience) and those oriented toward more practical ends, such as social acceptance. Both orientations, however, have a role in the nature of people's affiliation with AA.

The placebo response sheds light on the role of spirituality in relieving dysphoria because, like spiritual experiences, it derives its power from belief rather than the physiologic effect of an empirically validated treatment. A meta-analysis of results of placebo-controlled studies on antidepressants for major depressive disorder revealed that the mean number of patients responding to placebo was 60% of the number who responded to the active drug.[31] The durability of this response was illustrated in one study[32] in which 72% of depressed patients who responded to a placebo (vs. 91% of those on an active drug) did not experience relapse to depression over a two-year follow-up period.

A phenomenon analogous to the placebo effect can be observed in the impact of social stimuli on affective states in cross-cultural examples. Fox[33] described a Navajo woman with major depression whose symptoms were relieved by a tribal ceremony in which she was symbolically reborn and readopted into the tribe. Her remission was maintained over a seven-year follow-up period. Similarly, people successfully inducted into the Unification Church over the course of a three-week workshop sequence experienced a clinically significant decrease in substance use, anxiety, and depression following induction.[34] Additionally, the positive response to psychotherapy has been said to be mediated by "non-specific" factors: Frank pointed out that a supportive relationship, the expectation of help, and the provision of meaning to symptoms, factors clearly associated with the experience of AA membership, may be more relevant to treatment outcome than specific modalities employed.[35]

PROBLEMS WITH SPIRITUALITY

A spiritual orientation is not without potential problems, and this too has led to a disinclination on the part of clinicians to rely on its use in clinical care. Highly compromising distress can take place in intensive group experiences. A situation analogous to this has been studied in encounter groups, experiential settings oriented toward personal growth (a secular analog of spiritual enlightenment). Psychological compromise in such settings in vulnerable individuals was determined by objective measures by Yalom and Lieberman.[36] This came about when participants felt themselves to be in a pariah status, as promoted by interactions during these intense group experiences. The possibility of such consequences being experienced in twelve-step meetings by members who experience a similar status has yet to be studied.

Many alternative medicine techniques embody a spiritually grounded philosophy. One recent probability study of the American population revealed that the majority (68%) of respondents had employed some type of alternative medical approach in the previous year.[37] However, the abuse of some alternative medical products may be harmful. Ephedra, for example, has been shown to produce both cardiac and psychiatric toxicity.[38] Others, like St. John's wort, may carry none of the putative benefit which they are said to offer.[39]

Patients may turn to spiritually oriented alternative techniques rather than empirically grounded treatments. In one study, it was found that 45% of intravenous heroin addicts who had entered a needle exchange program rather than active rehabilitation were found to have employed complementary and alternative medicine techniques such as religious healing. The popularity of acupuncture as a treatment of addictive disorders illustrates how a folk medicine associated with a spiritual heritage can achieve acceptance in the absence of research-based validation. More than 400 drug abuse treatment facilities in the United States were employing acupuncture[40] before it was sufficiently studied under controlled conditions and found to be of uncertain value in the treatment of addictive disorders.[41] Interestingly, one report on seriously ill

members of a faith-healing sect is revealing with regard to such healing techniques. Those who thought themselves healed by religious experience alone scored high on denial in psychometric testing.[42]

APPLICATION IN TREATMENT

The multi-faceted nature of spiritually oriented recovery is such that it may infuse rather different approaches to addiction rehabilitation. These range from group-oriented experiences, as in AA, to individual therapy focusing on spiritually oriented goals tailored to the individual. The relationship between spirituality and alterations in consciousness also suggests its application in modalities such as meditation. Such examples illustrate the potential for empirical research on this construct for application to clinical care and rehabilitation.

Alcoholics Anonymous

Members of the lay public may conclude that certain healthcare issues are inadequately addressed by the medical community, particularly when doctors are not sufficiently attentive to the emotional burden that an illness produces. When mutually supportive groups of laymen coalesce to implement a response to this perceived deficit, they may form a spiritual recovery movement.[43] These groups claim to offer relief from the burden of illness based on beliefs independent of evidence-based medicine and ascribe their effectiveness to higher metaphysical or non-material forces. Many such movements abound today, from chiropractic medicine to faith-based healing.

Alcoholics Anonymous is an example of how such a phenomenon can be effective in promoting healthful behavior, as its twelve-step approach was derived from steps to moral redemption developed by a quasi-religious movement, the Oxford Group.[44] It also illustrates how a spiritually oriented movement can be employed to complement evidence-based medical practice, as evidenced by its own recent survey results that show that 60% of members have received professional counseling before joining.[45] A meta-analysis of outcome studies on patients treated in medical settings has shown that those who attend AA during or after professional treatment are more likely to show improvement than those who do not.[46] In a study of untreated alcoholics in the general community, after a one-year follow-up, those who attended AA showed greater improvement than those who did not, and the number of AA visits made in the first three years was a significant predictor of improved status at eight years.[47]

These studies, however, like most evaluations of AA outcome, show a *correlational* rather than a necessarily *causal* relationship between AA and improvement in drinking problems, as people who attend AA may be more inclined to give up their abusive drinking than those who do not. On the other hand, evidence of the efficacy of the AA approach under controlled conditions has emerged from Project MATCH. Twelve-Step Facilitation, framed to promote alcoholics' affiliation with AA, was found to yield an outcome comparable to that of established empirically grounded modalities like cognitive behavioral therapy and motivation enhancement.[12]

The spiritually oriented twelve-step approach has been employed in professional treatment in many programs, serving as the overriding philosophy of an entire therapeutic experience or as one aspect of a multi-modal eclectic approach. The Minnesota Model for treatment, typically located in an isolated institutional setting, is characterized by an intensive inpatient stay during which a primary goal of treatment is to acculturate patients to the acceptance of the philosophy of AA and continuation with AA attendance after discharge.[48] Although a variety of exercises are included during the stay, this approach is seen by some as overly dogmatic because of its sole reliance on the twelve-step approach.[49] The outcome of this model, however, has been shown to yield positive results in a survey of patients discharged from one such setting (Hazelden, Center City, MN),[50] but randomization with an alternative approach has yet to be carried out. Investment in studying the psychological mechanisms that underlie this approach and its relative effectiveness should be supported.

Adaptations of the Twelve-Step Approach

A more eclectic option is illustrated in the integration of twelve-step groups into a general psychiatric facility for the treatment of patients dually diagnosed for major mental illness and substance abuse. The importance of spirituality in such a highly compromised population was evidenced in studies[51,52] in which such patients ranked spiritual issues (eg, belief in God, inner peace) higher than tangible benefits (social service support, outpatient treatment). One inherent advantage of this combined format is that it benefits from the introduction of an inspirational format to patients who, in Goffman's words,[53] have become "degraded" by stigmatization due to their disorders.

It has been shown with prior randomization that integrating biomedical and spiritual options yields greater improvement than having such treatment provided in separate settings. It can also be adapted into a system of multiple levels of inpatient and ambulatory care,[54,55] where AA attendance and related groups for the dually diagnosed are part of the therapeutic philosophy, applied from the initial stages of acute inpatient treatment on through ambulatory rehabilitation. A program based on the twelve-step model has also been shown to be viable in methadone clinics to allow patients to benefit from the spiritually oriented approach.[56] Other recovery

movements rely on strongly held beliefs not associated with a spiritual orientation per se, but instead with secularly grounded beliefs that their members accept without question. The drug-free therapeutic communities adhere to the assumption that addiction can be resolved by characterologic re-adaptation.[57] Nonetheless, residents of the therapeutic communities have been found to be open to a spiritually oriented recovery.[58] Altogether, the issue of stigmatization, so compromising to the recovery of addicted patients, may therefore be approached through better use of a spiritually oriented approach to rehabilitation.

Meditation

The recently emerging popularity of Eastern spiritual traditions has led to the appeal of meditation in settings as diverse as sectarian movements and clinical centers where evidence-based medicine is practiced. Meditation has been central to some cultic groups like the Divine Light Mission, where it afforded members a sense of transcendence that enhanced the credibility of the movement's philosophy. In our study of this cultic group, the overwhelming majority of its members endorsed statements such as they "heard something special no one else could hear" during meditation (92%), and that meditation offered them a "special new meaning in life" (96%). There was also a considerable decrease in self-reported substance abuse after joining (eg, the portion of members using marijuana and alcohol daily declined from 45% to 7% and 13% to 0%, respectively; and for any heroin use from 7% to 0%). Significantly, time spent in meditation was a significant predictor of that overall decrease.[59]

Much remains to be investigated, however, regarding the nature of meditation practice, as the variety of techniques subsumed under this rubric are apparently different in many respects, both subjectively and physiologically. Tantric meditation, of Indian origin, with its endpoint in the transcendence of Samadhi, is characterized by physiological activation manifested in EEG and autonomic changes.[60] A Buddhist technique of objectless meditation was found to be characterized by high amplitude gamma synchrony; significantly, changes in EEG measures persisted subsequent to the mediator's emergence from the meditative state.[61]

Meditation has been employed to address problematic symptoms within the medical mainstream. Mindfulness meditation, associated with a spiritual orientation in Buddhist thinking,[62] has been found to provide relief for anxiety and depression,[63] as well as physiologically grounded pain.[64] Its potential use in the treatment of substance abuse is supported by positive results in one study carried out as an intervention for young adult drinkers.[65] This is an area that may yield psychological interventions to enhance both psychosocial and pharmacologic treatment approaches.

Personal Meaning and Recovery

A secular equivalent of spiritually grounded recovery can also be applied in traditional treatment settings not oriented toward a belief system per se, but instead reflecting the instillation of hope in the clinical encounter. This characteristic was posited by Frank and Frank[66] as being held in common by all psychotherapies, as well as by AA and religious revivalism. Frankl[67] stressed the importance of personal meaning as central to the relief of psychiatric symptoms in the context of psychotherapy, an approach associated with the concept of humanism and ultimately linked to spiritually oriented Zen Buddhist beliefs.[68] Also related is Bergin's view that all therapies draw on the inherent values of the therapist, leaving them subject to his or her implicit orientation; from this perspective, a spiritual orientation is therefore a valid aspect of treatment.[69] When considered as a group, these views provide a basis for understanding how a secular equivalent of spirituality could be infused into the process of individual therapy for substance abusers.

Healing techniques can also be tailored to the spiritual orientation of a specific subculture so as to achieve a meaningful alternative to addictive behaviors. In South Texas, for example, a curandero in the Mexican-American community can overcome the subculture's association between abusive drinking and manliness by defining abstinence as proof of strength, rather than as a reflection of diminished manhood. Treatment based on a subculture's beliefs also takes place among fundamentalist psychiatrists who were members of the Christian Medical Association. Almost all (96%) of these professional caregivers reported having been "born again." They were queried as to what percentage of alcoholic patients who were committed Christians they would treat with prayer (by the patient). Their mean response was 60%, but it was 20% for "non-believing" Christians as well. Additionally, they rated the Bible and prayer as significantly more effective in treating alcoholism than psychotherapy. The effectiveness (and also appropriateness) of spiritually oriented treatment has yet to be studied, but makes clear how medically based care may be infused with a spiritual philosophy, even among certified professionals. Such findings underline the importance of ascertaining how culturally specific applications of spiritually grounded renewal may prove valuable in enhancing clinicians' ability to work effectively with their patients.

The interface between spirituality and the treatment of substance abuse disorders has yet to be fully explored, but further research may support its relative value (as well as problems potentially associated with it) in specific applications. The need for this is evident in data on alternative and complementary medicine. One recent probability study of the American population revealed that the majority (68%) of respondents had employed some type of alternative medical approach in the previous year.[70]

In another sample, the majority (54%) of respondents who self-reported severe depression indicated that they had used complementary and alternative therapies in the previous twelve months.[71] Of those who turned to both alternative and mainstream treatment, the majority of respondents in one study (72% to 63%) did not tell their physician of the alternative care they had undertaken.[72] One report on seriously ill members of a faith-healing sect is revealing with regard to healing techniques: those who thought themselves healed by religious experience alone scored high on denial in psychometric testing.[73] The appeal of alternative medical approaches—with spirituality and similar constructs infusing many of them—has to be better understood.

The issue of people turning to alternative medicine rather than biomedically based treatment already pertains to the addiction field, and not only in AA. Many intravenous heroin addicts have turned to a needle exchange program rather than active rehabilitation and been found to employ complementary and alternative medicine techniques such as religious healing. The currency of acupuncture as a treatment of addictive disorders also illustrates how folk medicine can achieve acceptance in the absence of research-based validation. Over 400 drug abuse treatment facilities in the U.S. were employing acupuncture[74] before it was sufficiently studied under controlled conditions and found to be of uncertain value in the treatment of addictive disorders.[40]

Because of the growing interest by the general public in complementary and alternative medicine, spiritually grounded approaches may come to be an accepted domain for the rehabilitation of addiction, with or without investigation. If this takes place without adequate psychiatric attention to this issue, the opportunity for assuring competent care in this domain may be compromised. In coming years, this will pose a challenge to the progressive practice of addiction psychiatry, however it may be defined by evidence-based techniques.

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