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Ayurvedic Psychology: Ancient Wisdom Meets Modern Science

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Ayurveda is a holistic medical system based on ancient Indian texts that utilizes natural treatments, botanical medicines, and lifestyle and dietary practices to promote healing of the body, mind, senses, and spirit. Interest in Ayurveda has grown in the United States over the last two decades, as consumers, therapists, scientists, and health regulators have recognized its holistic and preventative benefits. According to Ayurveda, every human being is composed of a unique proportion of these elemental energies, a foundational theory in Ayurveda known as *tridosha*. The three doshas (*vata*, *pitta*, *kapha*) represent three psychobiological constitutional types that govern all human characteristics, activities, and patterns of health and illness. Preliminary genomic research suggests there may be correlations between the doshas and certain genetic patterns. Other early research applying doshic theory to various populations shows similar promise. Ayurvedic treatments are also being tested for efficacy both in medical and psychological applications, but it is often examined in ways that isolate individual therapeutic substances or treatments in a way that is antithetical to the holistic approach of Ayurveda. This approach might be more fruitfully paired with a holistic approach to psychology such as that offered by transpersonal psychology.

Keywords: *Ayurveda, dosha, vata, pitta, kapha, botanical medicine, panchakarma, shirodhara, holistic medicine, traditional medicine, transpersonal psychology*

The National Center for Complementary and Alternative Medicine (NCCAM), a division of the National Institute of Health (NIH), defined CAM, or *complementary and alternative medicine* as “a group of diverse medical and health care systems, practices, and products that are not generally considered part of conventional medicine” (NCCAM, 2010a, para. 2). *Conventional medicine* refers to allopathic medicine practiced by licensed physicians, including medical doctors and doctors of osteopathy. Today, CAM is widely practiced by both physicians and allied health professionals such as physical therapists, psychologists, and registered nurses.

Although CAM is a rapidly growing sector of the United States health care market (Barnes, Powell-Griner, McFann, & Nahin, 2004), several reports have noted the lack of scientific sophistication and standards within current CAM research (Angell & Kassirer, 1998; Berman & Straus, 2004; Ernst, 2003; Fontanarosa, 1998; Lundberg, 1998). Part of these limitations may relate to the lack of theoretical understanding of the core disciplines being studied (Berman & Straus, 2004; Curtis & Gaylord, 2005;

Hankey, 2005c; Singh, 2010a, 2010b). Despite these concerns, researchers have noted improving standards for CAM practices and research in the past two decades (Ernst & Cassileth, 1998; Hankey, 2005b). More rigorous study structures are appearing in CAM research with greater frequency, including double-blinded, placebo-controlled, crossover studies. Research is also taking place across a wider range of CAM disciplines (Ni, Simile, & Hardy, 2002).

The use of CAM in the United States was not widely researched until a national survey of 1,539 individuals suggested that complementary and alternative modalities were more widely used by the general population than previously estimated (Eisenberg et al., 1993, 1998). These included therapies such as chiropractic, massage therapy, acupuncture, and homeopathy. By definition, complementary medicine is used in conjunction with a conventional medical approach and is often used synonymously with the term *integrative*; whereas alternative medicine, which is often used synonymously with the term *holistic*, refers to modalities used entirely in place of conventional approaches (Berman & Straus, 2004).

Ayurvedic medicine represents one of the major areas of growing CAM interest in the United States (Bode, 2006; Bodeker, 2001; Chopra & Doiphode, 2002; Sharma, Chandola, Singh, & Basisht, 2007a). The Sanskrit word *ayurveda* derives from the terms *ayus* (life) and *veda* (science or knowledge) and represents one of the most ancient and comprehensive traditional medical systems in the world (Lad, 1995; Mishra, 2004; NCCAM, 2010b). Ayurveda is a holistic medical system that utilizes natural treatments, botanical medicines, and lifestyle and dietary practices to promote healing of the body, mind, senses, and spirit (Lad, 1984).

Interest in Ayurveda has grown in the United States over the last two decades, as consumers, therapists, scientists, and health regulators have recognized the holistic and preventative benefits of the science (Bodeker, 2001; Simon, 2004). Ayurvedic research has largely focused upon the healing constituents of singular Ayurvedic herbs and botanical formulations (Singh, 2010a). Ayurvedic psychology, one of eight classical branches of Ayurvedic medicine, constitutes a little-explored yet emerging area of interest in Ayurvedic research (Antarkar, 2003a, 2003b).

Ayurveda may serve as a valuable CAM practice for promoting psychological health through offering a completely individualized (*doshic*) system of healing, holistic therapeutic modalities, and targeted botanical medicines for supporting psychological wellbeing. Ayurvedic psychology may also contribute to the evolving field of transpersonal psychology by providing holistic tools for promoting psychological health within a broader context of personal transformation. Further, transpersonal research methodologies may benefit Ayurvedic psychological research by helping expand Ayurveda's increasingly reductionistic empirical framework.

Ayurvedic medicine developed out of the *Atharva Veda*, one of the four sacred, spiritual texts of ancient India, and is estimated to be over 5,000 years old (Balodhi & Chowdhary, 1986; Lad, 1984). Originally transmitted orally, Ayurveda was later translated into Sanskrit and codified into three primary texts around 600 C.E. (*Charaka Samhita*, *Sushruta Samhita*, and *Ashtanga Hridaya*; these works likely predated this codification by anywhere from hundreds to thousands of years) that continue to be the most important classical reference texts of Ayurveda today (Chopra & Doiphode, 2002). Ayurveda originally consisted

of eight branches of traditional medicine: general medicine; surgery; diseases of the ear, nose and throat; pediatrics; toxicology; psychiatry; rejuvenation; and sexual vitality (Singh, 2004). *Charaka Samhita* contains the earliest known descriptions of several modern medical conditions, including diabetes, multiple sclerosis, Parkinson's, and Alzheimer's disease (Sharma, 2001; Sharma et al., 2007a; Tirtha, 1998). *Sushruta Samhita* includes descriptions of sophisticated surgical procedures, including the removal of cataracts, skin grafts, and reconstructive operations of the nose, which all influenced modern surgical methods (Tirtha, 1998).

Ayurveda continues to constitute the most widely used medical system in India today with over 80% of the country estimated to receive Ayurvedic care on an annual basis (Chopra & Doiphode, 2002; Saper et al., 2004). Contemporary Ayurvedic physicians (*vaidyas*) in India are trained in five-and-a-half-year medical programs that combine both traditional Ayurvedic and Western allopathic education. Although Ayurveda is practiced by over half a million licensed practitioners in India, the quality, structure, and training of Ayurvedic graduate programs are inconsistent (Patwardhan, Gehlot, Singh, & Rathore, 2010). The Indian government is working to establish better regulatory standards for Ayurvedic education (Pawardhan et al., 2010).

Ayurvedic practice remains a small but growing presence within the integrative medical field in the United States and a larger force within the growing nutritional supplement market. From 1996-1997, Ayurvedic botanical exports in India totaled \$433.66 million versus \$815.95 million for 2000-2001, with reports of growing usage in the United States (Mishra, 2004; Saper, 2008). Licensed practitioners, including medical doctors, nurses, and chiropractors, along with health practitioners such as massage therapists, herbalists, and nutritionists, have been largely responsible for the growing presence of Ayurveda within CAM modalities in the United States (Bodeker, 2001; NCCAM, 2010b). Mental health practitioners, including psychologists and other clinical therapists, are also beginning to incorporate Ayurveda within clinical practice (NCCAM, 2010b).

Unlike Traditional Oriental Medicine and Acupuncture, a national licensing board and curriculum for Ayurvedic education have not been created. Instead, the discipline is subject to private and regional licensing standards with practitioner degrees requiring a range from one to four years of study. The National Association

of Ayurvedic Medicine (NAMA) is a professional organization working to systematize Ayurvedic degree programs and further advance the role of Ayurveda in the United States.

White (2009) noted that although leading schools such as Harvard and UCLA have incorporated complementary medical training into their medical educational programs, the field of psychology has done little to explore CAM approaches. The author observed that many of the chronic conditions prompting individuals to seek out CAM treatments are also conditions commonly treated by psychologists. After identifying four prominent areas of CAM research (Traditional Chinese Medicine, Ayurveda, Naturopathy, and Homeopathy), White described several strengths of these disciplines in providing complementary options (such as herbs, dietary recommendations, and lifestyle practices) that could be used in conjunction with psychotherapy. In a subsequent paper, White (2009) suggested that formal training should be required for psychologists in multiple CAM areas.

Ayurvedic psychological theory highlights the importance of both physical and mental health in creating perfect health (*swasthya vritta*) and considers the mind (*manas*) and body (*sarira*) to be fully interrelated and mutually involved in creating all physical and mental pathologies (Lad, 1995; Singh & Sinha, 1975; Weiss, 2004). Classical Ayurvedic psychology and psychiatry, known as *bhuta vidya*, outlined several types of mental illness (*manovikara*) and also described both endogenous and exogenous sources of illness (Fabrega, 2001; Obeyesekere, 1977; Singh, 2004). The former related to imbalances with the psychophysiology caused by factors such as constitutional disturbances, unregulated emotions, poor quality of sleep, improper dietary habits, seasonal fluctuations, and genetic predisposition. Exogenous sources of mental illness related to paranormal factors include spiritual and karmic disposition, planetary influences, and the actions of malevolent supernatural beings. (Reddy, Ramut, & Venkataram, 1987; Singh, 2004; Weiss, 2004).

As Ayurvedic medicine became more standardized and scientifically validated after Indian independence in 1947, less emphasis was placed upon these latter, exogenous influences. Similarly, modern Ayurvedic research has focused more upon physical aspects of healing (such as the use of Ayurvedic botanicals, or herbo-minerals, for specific physical

conditions), while research on Ayurvedic influences on mental health remain less common. In a more general sense, this lack of research may highlight the mind-body dichotomy within Western scientific research interests and methods (Singh, 2010b).

For the purpose of this paper, *Ayurvedic psychology* will refer to all theoretical components, therapeutic and dietary modalities, and botanical medicines that relate to improving psychological well-being within the science of Ayurveda (Frawley, 1997; Tirtha, 1998). It is necessary to define this term, since classical Ayurvedic texts often did not delineate the difference between physical and psychological healing, due to the mind-body unity at the foundation of the science. This definition is similarly employed in contemporary Ayurvedic education in India and the United States (Tirtha, 1998).

The Doshas

Though Ayurveda derives its philosophy from six theist and at least three atheist classical Indian philosophies or darshanas, the specific basis of Ayurvedic psychology is found in the Sankhya school of Vedic philosophy, which also forms the foundation of Yoga, a sister science to Ayurveda (Frawley, 1997). Sankhya philosophy is a complex metaphysical system that outlined the evolutionary sequence of the universe, extending from primordial energy to the creation of matter, as manifested through the five elements of nature (ether, air, fire, water, and earth) and represented in the human body, mind, senses, and spirit. According to Ayurveda, every human being is composed of a unique proportion of these elemental energies, a foundational theory in Ayurveda known as *tridosha*. The three doshas (*vata*, *pitta*, *kapha*) represent three psychobiological constitutional types that govern all human characteristics, activities, and patterns of health and illness.

Vata is composed of the elements of ether and air and reflects physical and mental characteristics related to the qualities of these elements (Frawley, 1997; Hankey, 2001; Lad, 1995). According to Ayurveda, vata governs all physical movement, nervous system function, and mental activity. Pitta relates to fire and water, and governs all metabolic and digestive function as well as vision. Kapha relates to earth and water, and governs the structure and lubrication of the body and also directly influences the emotions. Although it is beyond the scope of this paper to provide a complete overview of doshic theory, a discussion of core concepts relating to

Ayurvedic psychology will better elucidate the related research to follow.

According to Ayurvedic theory, every individual is born with a unique doshic blueprint (*prakruti*) that is determined at the moment of conception by the parents' doshic combination, seasonal influences, and several other internal and external factors (Lad, 1984). The current doshic state of an individual (*vikruti*) is thought to be the healthiest when the current constitution is closest to this original blueprint. Over time, factors such as poor diet, lack of exercise, insufficient sleep, stress, and aggravating seasonal and environmental conditions cause imbalances within the doshic make-up. Most individuals have a primary dosha that is prominent in their constitutional make-up, while a secondary dosha is usually also present. This is called a dual-dosha type (e.g., vata-pitta type) and reflects a combination of both doshas.

Vata individuals are classically thin, fast moving, creative, and dynamic individuals (Lad, 1984). In a state of imbalance, vata types are considered the most predisposed to mental illnesses such as anxiety and depression, and also frequently experience conditions related to dryness, such as arthritis, constipation, and dry skin. Pitta types typically have a medium or athletic build and are focused, driven, and intellectual individuals. When imbalanced, pitta individuals are easily susceptible to anger and obsessional tendencies, along with inflammatory conditions of the body, such as ulcers, skin rashes, and hyperacidity. Kapha individuals are considered grounded, loving, and loyal individuals. In a state of imbalance, Kapha types commonly display introversion and lethargy, and are susceptible to conditions such as obesity, diabetes, depression, and hoarding tendencies or greed. In line with the unified theory of Ayurveda, all doshic imbalances are thought to impact both the mind and body. Tirtha (1998) offered a comprehensive overview of doshic correlates to modern medical conditions and patterns of illnesses. Integrative medical practitioners use these concepts in conjunction with allopathic forms of diagnosis and treatment in order to create an integrative template for healing.

The concept of the three doshas provides a guidance system for Ayurvedic psychology (Rao, 2007; Venkobarao, 2002; Weiss, Desai, Jadhav, & Gupta, 1988). The etiology of physical and mental illnesses, along with associated therapeutic treatments and lifestyle modifications, is discussed in relation to the doshas.

The individualized nature of Ayurvedic psychology is rooted in the recognition that opposite qualities and actions foster balance (Frawley, 1997). For example, a vata individual suffering from mental agitation and restlessness is treated with soothing activities such as oil massage, grounding activities like walking in nature, and nourishing dietary choices that are gently warming and directly balancing to the inherent lightness and dryness of Vata dosha. Ayurveda recommends utilizing all five senses in order to better address the holistic nature of healing (Nichter, 2008). For this reason, Ayurveda also contains some of the earliest descriptions of massage therapy, aromatherapy, nutrition, sound healing, and color therapy (Frawley, 1997; Tirtha, 1998). It also widely utilizes practices such as meditation, yogic exercises, breathing exercises and, to a lesser degree, Vedic astrology and the wearing of precious stones for subtle energetic influences. Ayurveda also classically discussed the health of the seven tissues (*dhatus*) of the body; the quality of waste products (*malas*) such as urine, stool, and sweat; the quantity of toxins (*ama*) within the organs, tissues, and subtle channels (*srotas*) of the body; and the strength of the digestive fire (*agni*) (Lad, 1984).

Within Sankhya philosophy, the three doshas also relate to the three *gunas* or primal qualities of the mind, known as *sattva*, *rajas*, and *tamas* (Frawley, 1997; Singh, 2004). Ayurvedic healing modalities are designed to promote *sattva* (qualities such as purity, honesty, and clarity), while creating a healthy level of *rajas* (passion, activity, and stimulation) and minimizing *tamas* (dullness, ignorance, and dishonesty)—though from a tactical point of view in working with a person in a healing process it is sometimes necessary to promote *rajas* or *tamas* as a short-term measure. Classical Ayurvedic psychiatry delineated the influence of both the doshas and the qualities of the *gunas* on mental illness. Reddy, Ramut, and Venkataram (1987) offered an overview of these classical commentaries, while Rao (2007) discussed Ayurvedic psychological terms as they relate to modern pathologies and classifications.

A growing branch of Ayurvedic research into the biological genome has begun to examine the genetic basis of the tridoshic theory, thus providing the first scientific efforts to substantiate core components of Ayurvedic psychology. Patwardhan, Joshi, & Chopra (2005) suggested a genetic correlation for the classical concept of Ayurvedic *prakruti* (birth constitution) through establishing an experimental association

between the human leukocyte antigen (HLA DRB1 gene) and the three primary doshic types. The authors wrote,

the subtle combinations of Vata, Pitta, and Kapha are as specific and individualized as the DNA sequenced-based genetic makeup. . . . [therefore] prakruti has a genetic connotation that could provide a tool for classifying the human population based on broad phenotype clusters. (p. 350)

In modern medicine, different DNA sequences (or *alleles*) within the HLA DRB1 gene are associated with several chronic diseases, such as rheumatoid arthritis, type I diabetes, ankylosing spondylitis, and other conditions considered to have an immunological basis. In a pilot study, genomic DNA was extracted from 76 subjects aged 20-45 with and HLA typing done using standard genetic protocols (Patwardhan et al., 2005). Ayurvedic doshic evaluation was independently completed and verified by two Ayurvedic physicians following the principles of the *Charaka Samhita*. These included evaluations pertaining to anatomical, physiological, and psychological characteristics, such as physique, skin texture, digestive capacity, and psychological temperament. The subjects were classified as follows: 32 were identified as kapha (42%), 34 as pitta (45%), and 10 as vata (13%). Within the HLA DRB1 gene, 14 alleles were examined with respect to hypothetical doshic correlates, as determined by the researchers and Ayurvedic physicians. These 14 alleles were shown to be unevenly distributed between the three doshic types, with a higher predominance of disease-related alleles (such as the HLA DRB1*13 allele) found in vata types.

The researchers suggested this finding was consistent both with disease correlates associated with this allele and with classical descriptions of vata disorders, which constitute the greatest number of illnesses in Ayurvedic medicine. Other genetic sequences showed higher distribution in kapha and pitta individuals, with limited distribution in vata individuals, further supporting the authors' hypothesis that constitutional differentiation (*prakruti*) could be observed in genetic polymorphism of the HLA DRB1 gene. Although the study was limited by a small sample size and a lack of diversity in the sample set, it represented an important attempt to scientifically validate foundational Ayurvedic theory. Patwardhan and Bodeker (2008) suggested that this type of research has made some advance toward

establishing a genetic basis for Ayurvedic mind-body typologies.

Hankey (2001) similarly maintained that since Ayurveda classifies the whole human population into three primary constitutional types, the possible relationship of doshic theory to human genetic structure should be studied. Hankey (2005a) further suggested that the ubiquity of coenzyme A—a key component of fatty acid metabolism—in all living organisms is congruent with the tridoshic theory that doshas serve the purposes of regulatory control in all organisms.

Joshi (2004) conducted a widely cited statistical analysis of core constructs of Ayurvedic doshic theory. Using regression modeling with a sample of 117 healthy subjects in India (ages 18-70), Joshi created an algorithmic heuristic based on an exhaustive list of physical and psychological characteristics classically used by Ayurvedic physicians to determine doshic type. A large number of these characteristics related to psychological characteristics. She compared this heuristic with qualitative assessments from Ayurvedic doctors for each of the subjects and found a 75% convergence with significance at the $p = 0.05$ level. The study is flawed in that it did not specify gender variation within the sample set, nor did it specify the diagnostic criteria of the Ayurvedic physicians. Future studies would benefit from some cultural variation within the sample being tested. Despite these limitations, the test is considered one of the first empirical tests on the theoretical constructs of Ayurveda, providing preliminary statistical support to its theory of psychobiological constitutional types.

More recently, Ayurvedic psychological research has extended beyond the scope of testing theoretical constructs of Ayurveda (such as doshic theory) to employ these constructs within clinical research. In a groundbreaking study, Suchitra, Gangadhar, Nagarathna, & Nagendra (2010) developed a 67-item scale to measure the tridoshic symptoms of Ayurvedic psychosis (*unmada*). In the study, an unblinded researcher administered the Unmada Specific Scale (USS) to 30 nursing home patients with nonaffective psychotic disorders in Bangalore, India. The USS was developed by translating Sanskrit verses describing vata-, pitta-, and kapha-influenced psychosis into scale items.

In order to authenticate the classical accuracy and clinical relevance of the scale, the Suchitra et al. (2010) consulted with 15 Ayurvedic experts, 5 psychiatrists, and 5 psychologists. The internal consistency of the scale was

excellent with a Cronbach's alpha of 0.97, 0.97, and 0.88 for vata, pitta, and kapha, respectively. The subscales also diverged significantly from each other (V vs. P = -0.55, $p < 0.05$; V vs. K = -0.53 $p < 0.5$, and P vs. K = -0.35 $p < 0.05$). Nearly all patients categorized as paranoid schizophrenic (16) scored above the 75th percentile for the vata dosha subscale category, while all patients with a diagnosis of schizophrenia unspecified (7) scored above the 75th percentile for the pitta subcategory. Lastly, all patients diagnosed with psychosis not otherwise specified (6) scored above the 75th percentile on the kapha subscale.

Although these findings suggested some doshic correlation to types of psychosis, the sample size of 30 patients, along with the limited number of DSM-IV psychotic types within the sample, was much too small to make any conclusive correlations. A future test would benefit through blinding the test administrator and scale rater, along with establishing both criterion validity and construct validity for the scale itself. Despite these limitations, the study suggested that the USS merits further research, which may benefit future Ayurvedic psychological research.

The study also provided an example of combining Ayurvedic classical expertise with modern research methods (cf. Ashok, 2010), while offering support for constitutional differentiation within psychological treatments. As tridosha theory becomes more widely studied in this manner, the strength of constitutionally based or individualized treatments have the potential to move from folkloric and anecdotal remedies to evidence-based treatment protocols (Singh, 2010a). This paper will later examine practical methods for incorporating doshic theory within a modern psychological framework and practice. Following is a discussion of several Ayurvedic therapeutic modalities utilized within Ayurvedic psychology that have only recently begun to be studied.

Treatments

Therapeutic modalities constitute one of the largest branches of classical Ayurvedic theory and practice (Tirtha, 1998). These include systems of massage, detoxification, surgery, rejuvenation, and other disease-specific modalities. One of the most widely known Ayurvedic therapies today is the traditional five-step detoxification process known as *panchakarma*, or the 5 actions. Panchakarma consists of 5 primary treatments, such as herbal and oil enemas to promote the elimination of toxic waste products (known as *ama*) within the

tissues. These therapies are combined with adjunct holistic modalities such as oil massage, steam therapy, nervous system pacification, and dietary practices, and are tailored with respect to an individual's constitution. The concept of *ama* in Ayurveda also extends to the mind, with the concept of mental *ama* relating to unhealthy thinking and repressed psychological material (Frawley, 1997). Panchakarma treatments, therefore, also target the mind through encouraging psychological healing, as well as energetic purification through targeting the subtle energetic systems of the psychophysiology, including the *chakras* and *nadis* (Tirtha, 1998).

Conboy, Edshteyn, and Garivaltis (2009) examined the role of panchakarma therapy for improving quality of life and encouraging positive behavioral and psychosocial changes in a sample of 20 female participants. The study utilized a traditional five-day panchakarma program, with four primary outcome measures (Health-Promoting Lifestyle Profile II, SF-12, Interpersonal Support Evaluation List, and Perceived Stress Scale) administered at three time points—before the start of the program, on the last day of the program, and three months after its completion. The study results indicated no improvement on the quality of life scales, while perceived social support and depression scales showed significant improvements post-program. This study was limited by a lack of diversity, insufficient controls, no constitutional differentiation within treatment modalities, and an overly broad research design. It may have been strengthened by a longer panchakarma treatment duration and the inclusion of a secondary sample group that also learned Ayurvedic lifestyle practices. This latter addition would have made the study more consistent with the holistic orientation of Ayurvedic therapies.

Ramu et al. (1992) conducted a multi-modal study to assess the efficacy of Ayurvedic cleansing therapies and botanical medicines when compared to the use of the antipsychotic drug chlorpromazine for treating schizophrenia. The study suggested that the effects of the 28-day Ayurvedic treatment program for 36 schizophrenic patients (aged 14 to 65) did not significantly differ from chlorpromazine use. However, both treatments showed significant improvements in the cognitive functions of the patients. Unlike other botanical studies previously reviewed, this study benefited by the inclusion of oil massage and steam therapy, thus reflecting a more authentic research

foundation for the study. However, the study lacked any method for ensuring constitutional variation within the treatment population. For example, conducting a similar study utilizing Suchitra et al.'s (2010) Unmada Specific Scale would allow greater tailoring of both the panchakarma treatments and adjunct treatment modalities through differentiating the underlying forms of schizophrenia from a doshic perspective. For example, oils are classically used in panchakarma in accordance with their respective heating and cooling potencies and the aggravated dosha in question (Tirtha, 1998). Therefore, the panchakarma oils could be chosen in accordance with the current imbalance (vikruti), as related to the doshic characteristics of the participants. The treatment group might also have derived further benefit from the addition of dietary practices and botanical medicines, although this would have greatly increased the complexity of study.

Another widely used adjunct treatment to traditional panchakarma therapy is the practice of *shirodhara*, a gentle therapy for regulating stress and anxiety. *Shiro* translates as “head” and *dhara* as “flow”, and the practice consists of a warm stream of oil being poured continuously onto the central area of the forehead (or third eye) for 30 to 45 minutes, in order to pacify the central nervous system. Shirodhara was classically used to treat a number of psychological conditions, including anxiety, insomnia, hyperactivity, schizophrenia, and other affective disorders (Tirtha, 1998). Today, shirodhara is commonly thought to create greater coherence between the left and right hemispheres of the brain (Tirtha, 1998).

In 2008, Uebaba et al. conducted the first larger scale (85 participants), randomized, controlled study on shirodhara. The Japanese researchers created a shirodhara robot that allowed the treatment to be precisely standardized. The study suggested that shirodhara was an effective treatment for lowering stress and anxiety as measured through the State-Trait-Anxiety Inventory, Profile of Mood States, and EEG measurements. The study also suggested that several recipients of shirodhara experienced transcendent, altered states of consciousness (ASC), as measured through an unidentified ASC questionnaire, with validity established by a Japanese researcher. Recipients reported deep, restful states during treatment, and they exhibited induced bradycardia and lower CO₂ output, similar to those measured in meditative states.

Although the study was groundbreaking for helping to validate this ancient treatment, the technological sophistication did little to test the traditional technique of administering shirodhara in a copper pot, a practice increasingly utilized in leading medical and non-medical spas throughout the United States (NCCAM, 2010a). It also failed to measure the effects of treatment over time or the impact on overall health. Despite these limitations, this study demonstrated the increasing sophistication within the field of Ayurvedic psychological research. Several important Ayurvedic therapeutic modalities for affecting psychological health have not yet been widely studied. These include modalities such as the nasal administration of medicated oils (*nasya*); doshically-tailored forms of aromatherapy; multi-practitioner, synchronized oil massage (*abhyangha*); and the use of these types of targeted therapies in combination with traditional forms of yoga postures, breathing exercises, and daily lifestyle routines (*dincharya*; Antakar, 2003; Frawley, 1997; Lad, 1984; Tirtha, 1998).

Currently, the most widely studied therapeutic modality relating to Ayurvedic psychology is the consumption of herbal medicines for psychophysical healing. Along with the individualized doshic practices and holistic therapeutic modalities of Ayurveda discussed above, Ayurvedic herbology (*dravya guna shastra*) constitutes one of the important areas of potential contribution to CAM practices in the United States. Following is a brief review of key studies in this area.

Botanical medicines have played a prominent role in Ayurvedic medicine for millennia (Antakar, 2003a). Over 1,200 species of botanicals and 100 minerals are described in classical Ayurvedic texts, with detailed descriptions relating to physical, mental, and spiritual levels of healing. Ayurvedic herbology and its related branch of Ayurvedic nutrition examine the primary tastes (*rasas*) of each individual plant along with the heating or cooling potency (*virya*) and post-digestive effect (*vipak*) of the herbs or foods. Within this analysis, botanical medicines and dietary guidelines are specifically tailored for an individual's doshic make-up, age, digestive capacity, degree of imbalance, quality of tissues, and several other factors relating to overall health. Properly chosen daily foods are considered potent medicines in Ayurveda (Lad, 1984; Yarema, Rhoda, & Brannigan, 2006), while herbs are used for even more targeted effects through their increased nutritional concentrations and potencies (Tirtha, 1998).

Many comprehensive overviews of Ayurvedic herbology and research are available today (Ashok & Raut, 2006; Barrett, Kiefer, & Rabago, 1999; Sharma, Chandola, Singh, & Basisht, 2007b; Mishra, 2004; Tirtha, 1998), including at least one by Antarkar (2003b) of Ayurvedic botanicals specifically used for mental illnesses.

Non-Western healing systems that utilize botanical medicines are often criticized for their lack of *in vivo* controlled studies on humans (Barrett, Kiefer, & Rabago, 1999). Khan and Ballick (2001) conducted a literature review of 166 different species of plants found in the Ayurvedic pharmacopeia. Of these plants, the researchers found that 72 (43%) had at least one or more human studies and 103 (62%) had one or more animal studies. The authors noted that not all of these studies were methodologically rigorous, however they also noted that several of the studies introduced species that may be appropriate for larger-scale, controlled trials in the future. Recent botanical research in Ayurveda has witnessed the introduction of more stringent study parameters, with several studies appearing in leading Western scientific and medical journals (Nagashayana, Sankarankutty, Nampoothiri, Mohan, & Mohanakumar, 2000; Sharma et al., 2007a). Many of these studies have been conducted similar to pharmacological research with active constituents of botanicals being studied in relation to different medical conditions, such as arthritis, diabetes, hypertension, and obesity (Mishra, 2004).

Several studies have examined the effects of various Ayurvedic herbs on decreasing anxiety and depression (Battacharya & Ghosal, 2000; Bhargava & Singh, 1981; Singh, Singh, & Sen, 1979). In a placebo-controlled crossover pilot study, Sharma et al. (2007b) administered five grams of a classical Ayurvedic formulation for depression to seven participants, three times a day for two months. The formulation was found to significantly decrease anxious mood, tension, depressed mood, and insomnia while improving cognition ($P < .02$ to $P < .001$). In a larger placebo-controlled crossover study, Bradwejn, Zhou, Koszycki, and Shlik (2000) found that gotu kola (*centella asiatica*), also used in Ayurveda, displayed anxiety-reducing (anxiolytic) and energy-enhancing properties.

Ayurvedic botanical research has also looked at other areas of psychological and cognitive health. Promising results have been found using Ayurvedic botanical medicines to treat depression (Bhattacharya, Bhattacharya, Sairam, & Ghosal, 2000; Bhattacharya &

Ghosal, 1998), common affective disorders (Buhrman, 1997), dementia (Manyam, 1999), Alzheimer's disease (Ringman, Frautschy, Cole, Masterman, & Cummings, 2005; Talegaonkar & Mishra, 2004), and Parkinson's disease (Nagashayana et al., 2000).

Emerging Models of Care

Within CAM practice in the U.S., Ayurveda is largely embraced within an integrative medical model focused primarily on physiological healing (NCCAM, 2010a). The widespread use of Ayurvedic herbs, in particular, highlights a reductionistic (non-holistic) framework that is beginning to dominate both the use of Ayurvedic healing modalities and Ayurvedic research in the West. Rather than utilizing modern scientific methods to substantiate Ayurvedic theory within a holistic context, select Ayurvedic constituents (such as individual herbs and therapies) are being used to support isolated scientific hypotheses (Singh, 2010a; 2010b). This reductionism, in turn, has promoted the use of Ayurvedic healing modalities within a physiological, disease-based model, thus limiting the role of Ayurvedic psychological modalities and practices.

Medical doctors, chiropractors, and other CAM practitioners commonly prescribe herbs and select Ayurvedic therapies, such as dietary guidelines and therapeutic modalities. Holistic and doshically-appropriate guidelines, however, are often not incorporated, and physical healing is given greater emphasis over considerations of mental health (Antarkar, 2003b; Singh, 2010a). In order to integrate Ayurvedic psychological practices into modern practice, Ayurveda would benefit by becoming relevant within holistically-oriented systems of psychology that readily lend themselves to CAM practices. Transpersonal psychology represents one such branch of modern psychology. Transpersonal psychology might benefit from the constitutionally-based theories and treatment modalities of Ayurveda psychology, while offering in return its experience with novel methodological frameworks to benefit research efforts within Ayurveda.

After reviewing definitions of transpersonal psychology spanning approximately 35 years, Hartelius, Caplan, and Rardin (2007) defined transpersonal psychology in three primary terms: "beyond-ego psychology, integrative / holistic psychology, and psychology of transformation" (p. 10). Within the context of this definition, Ayurvedic psychology may be a highly relevant and wholly unique contributing discipline to

this emerging field of psychology—particularly since both Ayurvedic and transpersonal approaches emphasize a consideration of the whole person, including aspects beyond the conventional ego.

Through its foundation in Vedic Sankhya philosophy and its embodiment of 5,000 years of wisdom relating to human consciousness, Ayurveda advances a spiritual model of human development (Frawley, 1997). At its core, the science is designed to promote freedom from individual egoic constraints in favor of expanded states of awareness (Antarkar, 2003b; Frawley, 1997). On a practical level, Ayurveda offers individualized, doshic guidelines for keeping the body, mind, senses, and spirit healthy, thus providing a holistic foundation for such development. Ayurvedic psychology also promotes the development of mental health (*sattva*) within a broader context of fostering personal growth and spiritual transformation.

Scotton, Chinen, and Battista (1996) and Boucouvalas (1999) suggested that the field of transpersonal psychology will benefit from being multidisciplinary, cross-cultural, and open to Eastern and other traditions that explore the interconnections between transpersonal experiences and everyday events. Ayurveda contains some of the earliest known descriptions of spiritual crisis, states of possession, parapsychological phenomena, psychotropic drug use for healing, and other transpersonal areas of study. These descriptions contain an abundance of clinically-relevant observations and guidelines that have not yet been integrated into modern psychological research (Antarkar, 2003b).

On a more practical basis, transpersonal psychologists could benefit from a working knowledge of doshic variations and etiology, targeted therapeutic modalities, and simple lifestyle practices such as dietary guidelines and herbal protocols. White (2009) proposed that formal training should be required for psychologists in three areas of CAM—nutrition, botanical medicine, and homeopathy—with a minimum of 15 hours spent on each. Werneke (2009) and Walter Rey (1999) similarly discussed the importance of botanical education for mental health practitioners, particularly prescribing psychiatrists. Since a national licensing board and curriculum for Ayurvedic education have not yet been created in the United States, integrating basic Ayurvedic education into transpersonal curricula or continuing education credits would not pose significant challenges from the Ayurvedic field. Diluting a comprehensive

branch of wisdom into basic working knowledge, however, may pose several limitations to proper administration and efficacy of treatment, a phenomenon commonly observed in CAM usage of Ayurveda today (Singh, 2010a). Incorporating Ayurvedic theory and modalities into transpersonally based, clinical psychology practices may also face regulatory limitations varying by state (Behnke, Preis, & Bates, 1998).

In addition to practitioner degree programs in Ayurvedic medicine, several Ayurvedic educators have developed condensed training programs highlighting the holistic application of Ayurveda as a CAM modality (Simon, 2004; Tirtha, 1998). In addition to familiarizing practitioners with basic Ayurvedic theories and practices that will be useful in their respective fields, these programs emphasize proper referral within the Ayurvedic field for more advanced treatments such as panchakarma therapy. Such programs could be created with an emphasis on the integration of core Ayurvedic psychological theories and modalities into the practice of transpersonal psychology.

In an effort to establish a more holistic framework for Ayurvedic psychological research, transpersonal research methodologies may also benefit the field of Ayurveda. Singh (2010a; 2010b) acknowledged the strength of the four-fold method of classical evidence-based Ayurvedic testing—observational, inferential, scriptural or text-based, and experimental—and suggested that appropriate research methodologies must specifically incorporate Ayurvedic theory in order to advance Ayurvedic research. The positivist lens of much Ayurvedic research today often fails to capture the true depth and scope of the science. With respect to Ayurvedic psychology, it also frequently neglects subtle, yet profound, transformations within the body, mind, emotions, and spirit.

Through embracing methodological pluralism in research, transpersonal psychology has successfully studied such areas as human potential, higher states of consciousness, authenticity, and spirituality (Braud & Anderson, 1998; Davis, 2009). Ayurveda, because of its foundation in spiritual transformation, may similarly benefit from research methods that elicit deeper facets of human experience and consciousness. For example, Uebaba et al.'s (2008) pioneering research on Ayurvedic shirodhara treatment could have more deeply examined participant reports of transcendence by incorporating qualitative and phenomenological research methods.

Transpersonal research has successfully created or appropriated several valid scales related to human consciousness, spirituality, and personal transformation (Scotton et al., 1996). Integrating such scales into Ayurvedic research could also help the field evolve.

Ayurveda is commonly referred to as the “mother of all systems,” a term reflecting the history, scope, and depth of this ancient body of wisdom (Lad, 1998, p. 4). As CAM modalities continue to become increasingly popular in the United States, Ayurveda is poised to offer a truly holistic system of individual healing. Ayurvedic psychology offers a comprehensive approach to supporting psychological health through offering an individualized, doshic system of healing, unique therapeutic modalities, and targeted botanical medicines to support psychological wellbeing. Ayurvedic psychology may hold particular relevance to the evolving field of transpersonal psychology, and may also benefit from transpersonal research methods that honor the holistic essence of Ayurveda.

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About the Author (In Memoriam)

Daniel Patrick Rhoda, MA, graduated summa cum laude from Bowdoin College in 1999 after completing a junior year of college at the London School of Economics. He earned a Master of Arts in Transpersonal Psychology from the Institute of Transpersonal Psychology in Palo Alto, CA, in 2011. As he wrote this paper he was commencing clinical requirements for his PhD in Clinical Psychology at Sovereign Health in Los Angeles, CA, and starting his doctoral dissertation research at the Deepak Chopra Center in Carlsbad, CA. Dan had previously gained his qualification as an Ayurvedic Practitioner at the Institute for Holistic Medicine and Research on Kauai, Hawaii, where he studied with Tom Yarema, MD, and Suhas Kshirsagar, a world-renowned Ayurvedic physician. He co-authored with Tom Yarema and chef Johnny Branigan a 2006 best selling book on the art of Ayurvedic healing and holistic living, entitled *Eat-Taste-Heal*. He also was instrumental in the founding of Five Elements Consulting, LLC, which offered private consultations and public presentations on Ayurveda and nutrition. To those who knew him well, Dan was a sensitive soul who carried tremendous compassion for others—not only his friends and family, but for any and all whom it was within his power to aid. He was perceptive in the way that made you feel as if you were in the presence of a warm, intelligent person who knew just how you felt. At the same time, it was easy to sense the seriousness he brought to his work. We are honored to publish this final paper that outlined his vision for bringing together Ayurveda and transpersonal psychology as part of a renewed way to ease human ills and suffering. His departure from the world on September 6, 2013, was the loss of a bright light. For us, it was too soon.—*Editor*

The same stream of life
that runs through my veins
runs through the world
and dances in rhythmic measure.

Rhoda

It is the same life
that shoots in joy
through the dust of the earth
into numberless blades of grass,
and breaks into tumultuous waves
of leaves and flowers.

It is the same life that is rocked
in the ocean cradle
of birth and death,
in ebb and in flow.

My limbs are made glorious
by the touch of this world of life;
and my pride is from
the life throb of ages
dancing in my blood this moment.

The song I have come to sing
remains unsung to this day.
I have spent my life
stringing and unstringing
my instrument.

—*Rabindranath Tagore, 1912*

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