CE 3.0 Contact Hours
See text on pp. 215–216

An Ayurvedic Approach to Postpartum Depression

■ *Bobbie Posmontier, PhD, CNM* ■ *Marianne Teitelbaum, DC*

Ayurvedic medicine has existed for more than 5000 years but is only recently receiving recognition in current medical literature. The purpose of this article is to present an overview of Ayurvedic medicine, describe Ayurvedic treatment of postpartum depression, discuss concerns about herbal preparations, and discuss implications for nursing practice and research. **KEY WORDS:** *Ayurveda, Ayurvedic medicine, CAM, complementary and alternative medicine, postpartum depression* *Holist Nurs Pract* 2009;23(4):201–214

Postpartum depression (PPD) is a major depressive disorder affecting 6.5% to 30% of all childbearing women.[1,2] It is marked by a sad mood or loss of interest and 5 or more of the following: appetite disturbance, anxiety, psychomotor disturbances, low energy, irritability, sleep disturbance, cognitive impairment, and suicidal and/or homicidal ideation.[3,4] Symptoms may start as early as 2 weeks postpartum but are generally recognized and diagnosed between 6 and 12 weeks postpartum and can last up to 2 or more years.[1,5] Without treatment, the presence of PPD substantially increases the risks of chronic and treatment-resistant depression and suicide. Untreated PPD may also result in poor infant attachment; cognitive, emotional, and behavioral problems in children that may last through adulthood; poor performance of infant safety measures; poor infant growth; and decreased breast-feeding.[6–12]

Although early referral and treatment are key in preventing long-lasting and serious outcomes in both mother and child, many women with PPD are concerned with the effects of psychotropic medication on their breastfeeding infants. The American Academy of Pediatrics considers antidepressants of concern for breastfeeding infants.[13] Several complementary and alternative medicine (CAM) modalities have been explored to decrease depressive symptoms in the postpartum period, including light therapy; dietary supplementation of ω-3-fatty acids; iron supplementation; massage, yoga, exercise, and relaxation therapy, but no current research is available that describes Ayurvedic medicine, a natural approach to wellness originating in India more than 5000 years ago.[14]

The purpose of this article is to illustrate an Ayurvedic approach to PPD by presenting a brief overview of the basic principles of Ayurvedic medicine, describing treatment through a clinical exemplar, discussing current concerns regarding some Ayurvedic preparations, and discussing implications for nursing practice and research. Because the knowledge of Ayurvedic medicine relies on written and oral sources, this article will be based on the scientific literature and ancient Ayurvedic medical texts, as well as the oral teachings of *Vaidya* Rama Kant Mishra, an Ayurvedic physician from India who was born into a familial lineage of Ayurvedic practitioners who cared for Indian royalty over several centuries. The ancient Ayurvedic medical texts are considered the primary source of all Ayurvedic knowledge for treating all diseases including PPD (R. Mishra, oral communication, 2009). According to Mishra, Ayurveda not only encompasses physical health but also addresses mental, emotional, and spiritual health (R. Mishra, oral communication, 2009). It should be kept in mind that individual practitioners of Ayurvedic medicine may differ in their treatment approaches to PPD and other illnesses.

Author Affiliations: College of Nursing and Health Professions, Drexel University, Philadelphia (Dr Posmontier). Dr Teitelbaum is in private practice in Cinnaminson, New Jersey.

The authors have no conflict of interest.

Corresponding Author: Bobbie Posmontier, PhD, CNM, 245 N 15th St, Bellet Bldg, Mailstop 1030, Room 524, College of Nursing and Health Professions, Drexel University, PA 19102 (bp98@drexel.edu).

OVERVIEW OF AYURVEDIC MEDICINE

Ayurvedic medicine is an ancient healing system that has been used for more than 5000 years in India for preventing and treating disease and promoting wellness.[14] The individualized treatment and advice administered by *Vaidyas,* or traditional Ayurvedic physicians, have been used to treat asthma, osteoarthritis, diabetes, and depression as well as a variety of other illnesses across the life span (R. Mishra, oral communication, 2009).[15] The major aims of Ayurveda are to rid the body of toxins that can cause disease and reestablish harmony with the universe without the high cost and toxic side effects of Western allopathic medicine. The hypothesis of Ayurveda is that all living and nonliving things share the basic elements of ether, air, water, fire, and earth and that health of human beings and the universe depends on the balance and harmony of these elements. Based on balancing body, mind, and spirit through diet, herbs, spices, exercise, and meditation, Ayurveda has only recently been recognized in Western medical literature as a CAM modality.

According to a 2002 survey by the National Center for Health Statistics and the National Center for Complementary and Alternative Medicine (NCCAM), approximately 751 000 people in the United States have used Ayurvedic medicine at some point in their lives.[16] Approximately 80% of the population in India use Ayurvedic remedies exclusively or combined with Western medicine. Ayurvedic medicine is also widely used in Bangladesh, Pakistan, Sri Lanka, and Nepal.[17] Because nurses may encounter patients using Ayurvedic medicine for PPD, knowledge of this complementary and alternative medicine modality is important to provide informed and safe holistic nursing care.

In order to understand the etiology of PPD within the Ayurvedic medical paradigm, it is necessary to review the major tenets of its oral and written traditions, including the concepts of toxins, *Prana, Ojas, Doshas, Srotas*, and time (Table 1).

TABLE 1. Definitions of Ayurvedic terms[a]

Ayurvedic term	Definition
Adhipati	*Marma* point on top of skull where anterior fontanel fusion occurs
Ama	Sticky substance formed on the tongue and found in body channels when food is not well-digested
Dosha	Inherited characteristics unique to each human being
Kapha	Qualities include heavy, slow, lubricating, unctuous, and cold
	Supports the lungs, blood plasma, and lymph and supplies lubrication to the stomach, salivary glands, brain, spinal cord, and joints
Krakrita	*Marma* points at base of posterior skull
Marma	Points on body where *Prana* enters
Ojas	Finest end product of a healthy diet, proper digestion, and a routine that adheres to optimal time
Pitta	Qualities are hot, acidic, transforming, sharp, and slightly oily
	Situated in the stomach, liver, pancreas, and spleen
	Responsible for transforming food into usable nutrients for the body
Prana	Life force, healing energy, and electromagnetic radiation carrying intelligence between cells
Srotas	Body channels that connect the source of intake to all the tissues, the gut, and the excretory organs
Vata	Most powerful *Dosha*
	Element of lightness, dryness, movement, cold, roughness, and quickness and is situated in the intestinal region
Vaidya	Ayurvedic physician

[a]From R. Mishra, oral communication, 2009; and from Lad.[18]

Toxins

The oral tradition of Ayurveda recognizes that there are 4 types of toxins that can affect the body and cause disease (R. Mishra, oral communication, 2009). The first type is *Ama*, which is the by-product of partially digested food that can clog the physical channels in the body. This type of toxin is nonreactive in nature. One example of this might be eating breakfast and rushing to work while driving the car. Because attention is on driving and the stress of rushing, food that reaches the stomach is only partially digested and is turned into *Ama*. At this level, an individual may experience symptoms consistent with symptoms such as mild indigestion or reflux. *Ama Visha* is the next level of toxin, causing physical symptoms in the body that are more reactive in nature than those caused by *Ama*. According to the oral Ayurvedic tradition, this occurs when *Ama* is not cleared completely from the body through the digestive tract. With increased stress over time, *Ama* is eventually converted to *Ama Visha*, which is a more acidic and reactive form of *Ama*.[19–21] While *Ama* may cause clogging of the digestive tract and result in mild indigestion or reflux, *Ama Visha* can

result in an autoimmune response and produce diseases such as irritable bowel syndrome or colon cancer. The third form of toxin is *Gara Visha*, which originates from outside the body in the form of medications, vitamins, artificial chemicals, flavorings, and additives in food. The fourth level of toxin, *Indra Varjra Bhijanya Visha,* is a vibrational toxin caused by electromagnetic radiation emanating from cell phones, microwaves, computers, X-rays, and other electronic devices.

The early *Vaidyas* made several recommendations to their patients to avoid the formation of toxins in the body.[19–21] According to the ancient Sanskrit texts, *Ama* is formed with overeating, drinking cold beverages, eating food that is difficult to digest (such as red meat and hard cheeses), eating when digestion is sluggish (at night), eating while stressed, eating raw foods, eating when not hungry, eating in a standing position, and eating leftovers.[19–21] Mishra also includes frozen food, canned food, and microwaved food on the list of indigestible foods (R. Mishra, oral communication, 2009).

According to the ancient *Vaidyas*, the rationale for avoiding eating while standing was that blood, necessary for digestion, pools in the legs.[19–21] By eating in a seated position, more blood would be available to the digestive system and thus aid in more complete digestion of foods. The ancient *Vaidyas* also taught their patients that cooking food softens cellulose fibers and releases nutrients, which facilitates more complete nutrient absorption into body cells. However, they warned against eating leftovers because once food is cooked, the nutrients are now exposed to the environment and can quickly get oxidize. Oxidation then causes an increased risk of toxin formation in the body.

Microwaving exposes food to harmful radiation, thereby disrupting its flow of healing energy or *Prana* (see explanation of *Prana* below). Further, *Prana* in the food could also be damaged if food were frozen and thawed out. The ancient *Vaidyas* taught that cells absorbing nutrients with corrupted *Prana* begin to exhibit abnormal functioning and contribute to the onset of diseases such as depression.[19–21] In the postpartum period, physical and vibrational toxins are believed to be etiological factors that play a major role in mental and emotional diseases. The type of postpartum mental or emotional disturbance expressed by an individual depends on the type of toxins currently present in the brain and the heart.

Prana

The ancient Ayurvedic medical texts begin with a description of the origins of the body and the universe.[19–21] According to this tradition, the body and the universe are created from the same type of energy called *Prana*. Described as the life force, healing energy, or electromagnetic radiation, *Prana* carries universal intelligence between cells (R. Mishra, oral communication, 2009).[18] It is from this universal intelligence that the cells of the body are able to choose correct substances for nourishment. For example, the cells of the bones (osteoblasts) will choose calcium, magnesium, and zinc to build and maintain bone function. According to the principles of Ayurvedic medicine, with stresses coming both internally and externally to the body, cells can lose their universal intelligence and give rise to disease.

Prana has 3 components: *Soma, Agni,* and *Marut* (Fig 1).[19–21] While *Soma* is *Pranic* energy in the form

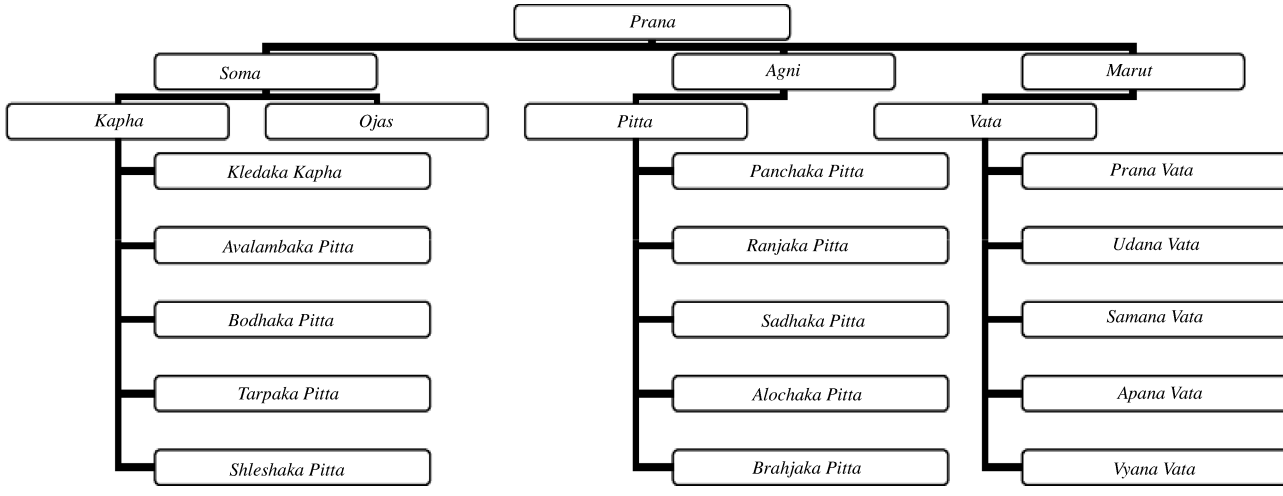

FIGURE 1. Evolution of *Prana*, *Doshas,* and sub-*Doshas*. From R. Mishra (oral communication, 2009) and Lad.[18]

of a negative and cooling charge from the Moon, *Agni* is a positive or hot charge from the Sun. *Marut* represents the flow of the *Soma* and *Agni*. According to the ancient *Vaidyas,* the Moon imparts *Soma* and the Sun imparts *Agni* to food as it grows in the fields. *Prana* is believed to enter the body through the *Adhipati marma* point, an area located on the top of the head where the sutures of the anterior fontanel fused together in infancy. In addition, *Prana* can enter the body through inspiration of air through the nasal passages and through consumption of foods and fluids.

Doshas

The structure of the human body is derived from the 3 types of universal *Prana* (see Fig 1). *Soma* gives rise to *Kapha* and *Ojas*, *Agni* to *Pitta*, and *Marut* to *Vata*.[19–21] Thus the internal functioning of the body is governed by the *Doshas—Kapha, Pitta*, and *Vata*—whereas the universe outside the body is governed by *Soma*, *Agni*, and *Marut*. According to the principles of Ayurvedic medicine, each person is born with a unique combination and balance of *Doshas* that can affect an individual's susceptibility to physical or mental diseases (R. Mishra, oral communication, 2009).[17–21] Imbalances of the *Doshas* may be caused by several factors, including (but not limited to) poor sleep, poor diet, overextertion or underexertion, and exposure to seasonal changes. In addition, exposure to chemicals, bacteria, and viruses can cause symptoms of disease that need correction through Ayurvedic intervention. Once the flow of *Prana* is blocked, cells lose their universal intelligence or their capacity to perform their various functions and diseases such as PPD can occur.

Vata, the most powerful *Dosha,* encompasses the qualities of space and air (R. Mishra, oral communication, 2009).[14,18–21] It is the element of lightness, dryness, movement, cold, roughness, and quickness and is situated in the intestinal region. A person with *Vata* qualities tends to have a thin fast moving body, have dry skin, have an aversion to cold weather, experience irregular digestion and hunger, quickly learn but quickly forget, worry, experience constipation, experience light and interrupted sleep, and experience depression with anxiety.[14] Individuals with predominance of *Vata* are particularly susceptible to heart disease, anxiety and depression, insomnia, phobias, menstrual cramping and spotting, infertility, and neurological disease.

There are 5 sub-*Doshas* of *Vata* including *Prana Vata* (located in the head), *Udana Vata* (located in the throat and chest), *Samana Vata* (responsible for churning food in the stomach), *Apana Vata* (located in the intestines and the uterine area), and *Vyana Vata* (located in the overall circulation).[19–21] According to the ancient Ayurvedic medical texts, if *Prana Vata* is too high, this can result in too many thoughts, insomnia, anxiety, worry, phobias, and depression. When *Udana Vata* is excessive, then thyroid, sinus, and respiratory problems may occur. High levels of *Samana Vata* can result in stomach cramps. Lower back pain, menstrual cramps, spotting, and other reproductive problems may occur with high levels of *Apana Vata*. Finally, high levels of *Vyana Vata* can result in circulatory problems and generalized body symptoms such as fatigue.

Pitta encompasses the elements of fire and water.[19–21] Its qualities are hot, acidic, transforming, sharp, and slightly oily (R. Mishra, oral communication, 2009).[17,18] It is situated in the stomach, liver, pancreas, and spleen and is responsible for transforming food into usable nutrients for the body. *Pitta* supports the digestive organs, eyes, heart, and skin. A person with a *Pitta* constitution tends to have a moderate build, performs activity with medium speed, has an aversion to hot weather and overheats easily, cannot skip meals, has sharp hunger, tends toward moles and freckles, tends toward irritability and anger, has a medium memory, and tends toward baldness and early graying. Individuals with *Pitta* predominance are particularly susceptible to heart disease, diseases of the emotional heart, depression, infections, and digestive diseases such as Crohn's disease (R. Mishra, oral communicatioin, 2009).[17–21]

Pitta also has 5 sub-*Doshas* including *Pachaka Pitta, Ranjaka Pitta, Sadhaka Pitta, Alochaka Pitta*, and *Brahjaka Pitta*. Because *Pachaka Pitta* governs hydrochloric acid in the stomach, high levels of *Pachaka Pitta* can cause gas, bloating, acid stomach, and gastritis.[19–21] High levels of *Ranjaka Pitta,* which is situated in the liver and spleen, may result in acid reflux and a "hot" liver. When levels of *Sadhaka Pitta*, which governs the emotional heart, are high, then sadness, depression, and grief may occur. Because *Alochaka Pitta* governs visual function, high levels of this *Pitta* may result in various eye diseases. Excessive levels of *Brahjaka Pitta,* which governs the skin, may result in skin conditions such as rashes.

Kapha includes the elements of earth and water and is considered the exact opposite of *Vata*.[19–21] The qualities of *Kapha* include heavy, slow, lubricating, unctuous, and cold. *Kapha* supports lungs, blood

plasma, and lymph and supplies lubrication to the stomach, salivary glands, brain, spinal cord, and joints (R. Mishra, oral communication, 2009).[18] The characteristics of a person with *Kapha* predominance are a pleasing and relaxed personality, thick hair, solid and heavier build, great strength and endurance, slow and methodical in performing actions, slow digestion, mild hunger, tranquil, steady personality, slow to grasp new information and slow to forget, and sleeps long and heavy. Individuals with *Kapha* predominance are particularly susceptible to diabetes, cancer, obesity, and respiratory disease (R. Mishra, oral communication, 2009).[17,18]

There are 5 sub-*Doshas* of *Kapha* including *Kledaka Kapha*, which lubricates the stomach; *Avalambaka Kapha*, which is located in the lower back and supports the body; *Bodhaka Kapha*, which is located in the salivary glands and provides lubrication to the mouth; *Tarpaka Kapha*, which lubricates the brain, the spinal cord, and the myelin sheath; and *Shleshaka Kapha*, which lubricates the joints.[19–21] High levels of *Kledaka Kapha* can occur from drinking cold beverages, which slows digestion in the stomach. When *Avalambaka Kapha* is high, this means that the support system of the body is overly stressed. While imbalances in *Bodhaka Kapha* can result in salivary gland diseases, *Shleshaka Kapha* imbalances can result in congestion and joint disease.

Ojas

The ancient Ayurvedic medical texts describe a physical compound produced from proper digestion of high-quality food as *Ojas*.[19–21] *Ojas* is the connecting factor between universal intelligence and inner intelligence (R. Mishra, oral communication, 2009).[18–21] When *Soma* enters the body through the *Adhipati* (top of the head), it is converted to *Ojas* and *Kapha* (see Fig 1). *Ojas* is also considered to be a neurotransmitter that is enhanced by consuming such foods as whole milk and sweet juicy fruits. Found in all cells, channels, and gaps in the body, *Ojas* is considered to be the finest end product of a healthy lifestyle and good nutrition. According to the ancient *Vaidyas, Ojas* gives an individual a healthy glow, clear sclera, strength, immunity to disease, and happiness. *Ojas* increases with the consumption of pure food such as fresh organic chicken and turkey, fish, vegetables, grains, milk, clarified butter (ghee), olive oil, pure air and water, loving relationships, laughing, and going to bed before 10:00 PM. In Ayurvedic medicine, in order to stay healthy and produce *Ojas,* all individuals need the *3 pillars of health*, which are proper foods, adequate sleep (at least 8 hours per night), and a regular daily routine (R. Mishra, oral communication, 2009).[14,18] Decreased levels of *Ojas* occur with improper diet, bedtime past 10:00 PM, overwork, overexercise, improper medications, improper exercise, an acidic pH, and improper conduct (R. Mishra, oral communication, 2009).[18]

To increase the levels of *Ojas*, the Ayurvedic system promotes the use of *ghee* (clarified butter found in Indian grocery stores) or olive oil while limiting trans fats and hydrogenated fats in the diet.[18–21] According to the Ayurvedic medical texts and the Western scientific literature, neurotransmitters such as serotonin, norepinephrine, and dopamine, which regulate mood and sleep, are metabolized from cholesterol.[22–26] Without fat in the diet, low levels of neurotransmitters are produced and mood changes such as depression and anxiety may occur. In addition, the adrenal glands and reproductive organs synthesize hormones from cholesterol; thus Ayurveda prescribes a diet with a moderate daily intake of organic saturated or unsaturated fats in every meal (R. Mishra, oral communication, 2009).[18,27(p392)]

Western medicine suggests that 20% to 35% of caloric intake should be from total fat and that no more than 10% of the diet should include saturated or trans fats.[28] In contrast, the early *Vaidyas* made a distinction between healthy and unhealthy fats without specifying whether or not the fats were saturated and without specifying the percentage of fat in the diet.[19–21] While they recommended avoidance of unhealthy fats, such as red meat, hard, aged cheese, and fried foods, they did not recommend a low-fat diet. Instead, they taught their patients that the fat in whole milk was of great value and that whole milk should be consumed on a daily basis.

In one of the ancient Sanskrit Ayurvedic texts, written more than 3000 years ago by Caraka, cow's milk was considered more nourishing than any other type of milk, such as milk from goat, buffalo, and sheep.[20] Because most modern-day cow's milk contains antibiotics and hormones, Mishra states that these toxic substances are absorbed into the tissues of the person drinking it (R. Mishra, oral communication, 2009). Mishra also states that the modern process of homogenization and pasteurization interferes with digestion and assimilation of the milk into the body tissues.

The ancient *Vaidyas* recommended that boiling the milk before drinking aids in the digestion and

assimilation of the milk (R. Mishra, oral communication, 2009).[19–21] They further advised that milk should be kept separate from animal proteins (meat, chicken, turkey, fish), fruits, and vegetables and only consumed on either an empty stomach or incorporated into cooked grains or dried fruits. By consuming milk in this way, it could be absorbed more easily into cells without clogging the arteries or other channels in the body. According to Mishra, lactose intolerance occurs from drinking milk that has been overprocessed as well as by mixing it improperly in the stomach with the wrong foods (R. Mishra, oral communication, 2009).[18]

The ancient *Vaidyas* taught that the fat in whole milk was necessary to transport calcium into the bones.[19–21] According to the *Vaidyas*, by removing milk fat, only a small amount of calcium would be absorbed while most would be eliminated in the urine. The early *Vaidyas* also recommended the use of clarified butter or ghee, which is created by removing the dairy solids and water through gentle simmering of whole, plain, unsalted butter. Unlike saturated fats from hard cheese, *ghee* was believed to be more easily absorbed without leaving unhealthy residues to clog body channels. According to Mishra, fats found in whole milk and clarified butter contain beneficial cholesterol, which is necessary for producing the proper balance of hormones and neurotransmitters found in the body such as the brain and the nervous system (R. Mishra, oral communication, 2009).

Srotas (Body Channels)

The body channels or *Srotas* connect the source of intake to all the tissues, the gut, and finally to the excretory organs (R. Mishra, oral communication, 2009).[14,19–21] Normally lined with *Ojas*, the *Srotas* contain cellular intelligence by scanning the contents of the channels, absorbing nutrients, discarding waste, and performing other metabolic functions. According to the Ayurvedic texts, when toxins enter the body, they can burn the *Ojas* layer, cause the cells to lose their intelligence, and increase susceptibility to diseases.[19–21]

Time

Time is also a critical factor in Ayurvedic medicine. According to the ancient and modern *Vaidyas*, there are optimal times within a 24-hour period for meditation, digestion, and sleep (Table 2) (R. Mishra, oral communication, 2009).[19–21]

TABLE 2. Optimal time frames for exercise, meditation, eating, and sleep[a]

Time frame	Optimal activities
6 AM–10 AM	Meditation, exercise, and yoga
10 AM–2 PM	Eat largest meal of day
2 PM–6 PM	Thinking, mental activity
6 PM–10 PM	Restful period to gear down for sleep
10 PM–6 AM	Sleep (best quality sleep from 10 PM–2 AM)

[a]From R. Mishra, oral communication, 2009; and from Lad.[18]

AYURVEDIC APPROACH TO EVALUATING POSTPARTUM DEPRESSION

Several factors need to be considered by Ayurvedic practitioners both before and after childbirth in women who develop PPD. *Vaidyas* often evaluate perinatal health by assessing the levels of emotional support provided by the family, the age of the mother, *Dosha* type, daily routines, antibiotic use, types of foods consumed, and the amount of exposure to unhealthy electromagnetic radiation (R. Mishra, oral communication, 2009).[18] They also assess past and present physical health as well as the current load of toxins in the body. In the first chapter of the *Caraka Samhita,* the author states that management of disease (*Prisutra Ayurveda*) must be based on 3 factors before creating a treatment plan including (1) etiology, (2) pathogenesis, and (3) symptoms.[20] Because these factors may differ between individuals, the nature of neurotransmitter imbalance may also differ. Thus, treatment of PPD is individualized on the basis of the factors contributing to depression.

Specific treatments based on etiology, pathogenesis, and symptoms include massage, food prescriptions, herbal remedies, establishing a regular routine, and establishing regular spiritual practice.[19–21] By determining which *Pranic* energy is out of balance in the body, the Ayurvedic practitioner begins to understand the pathogenesis of disease within the Ayurvedic paradigm.

According to the ancient Ayurvedic medical texts, *Vata* tends to go out of balance in the perinatal period.[19–21] If a woman consumes food that is low in *Soma* (lunar energy), goes to bed after 10 PM, and is exposed to high levels of electromagnetic radiation

from electronic devices, the cooling, nurturing, and alkalizing energy of *Ojas* (neurotransmitters) becomes critically low; the coordination between the mind and the emotional heart weakens; and emotional strength diminishes, thus resulting in PPD. Therefore, women were told to eat warm, cooked, and unctuous foods; rest as much as possible; adhere to a routine of early bedtime and eating meals on time; have daily oil massages; and drink warmed milk before sleeping. When body toxin levels are high, *Agni* or digestive/metabolic energy is low, and *Soma* energy in food is no longer being transformed to *Ojas*. At this point when *Ojas* is no longer reaching the brain, treatments such as herbs are recommended to increase the levels of *Ojas* and to decrease toxins in the body.

CLINICAL EXEMPLAR

The following case scenario illustrates the major aspects of an Ayurvedic approach to PPD:

Subjective—Chief concern

J.R. was a 28-year-old gravida 2 para 2, who came to her 6-week postpartum checkup with her nurse midwife saying that she did not feel like herself. She complained of crying for most of the day, low interest in her usual activities, insomnia, low energy, poor appetite, anxiety, and poor concentration. She denied any suicidal ideation. J. R. also expressed that she was not enjoying her baby as much as she would like to and was feeling guilty about these thoughts. Her score on the routine Edinburgh Postnatal Depression Scale (EPDS) was 14, and she met the diagnostic criteria for PPD with administration of the Mini-International Neuropsychiatric Interview (MINI).[26–28] She was offered sertraline and counseling. She expressed interest in counseling but declined antidepressant therapy because of safety concerns for her breastfeeding infant. The patient said that she had heard of the CAM modality, Ayurvedic medicine, and said that she wanted to try this "natural" approach before considering sertraline. The patient decided to seek out an Ayurvedic practitioner but also sought the advice of her nurse midwife for safety concerns before proceeding.

The measurement instruments in this patient scenario included the Edinburgh Postnatal Depression Scale and the Mini-International Neuropsychiatric Interview.[29–31] The Edinburgh Postnatal Depression Scale is a 10-item, self-rated PPD instrument consisting of a 4-point scale with possible responses from 0 to 3 arranged in the order of increasing severity.[31] The total scores range from 0 to 30. The thresholds used by other studies for a positive screen for PPD have been cited as greater than or equal to 9 to 10 or 12 to 13. Alpha reliability has been reported to be .87. The patient's score of 14 meets the criteria for a positive screen for PPD.

A structured interview was used to confirm the diagnosis of depression. The Mini-International Neuropsychiatric Interview is a structured clinical interview based on the *DSM-IV* Axis I disorders (Structured clinical interview for DSM disorders-I) that can be administered in a 15- to 30-minute session.[30] This structured clinical interview has been used to screen for depression, bipolar disorder, schizophrenia, antisocial personality disorder, current alcohol or substance abuse, panic disorder, and eating or obsessive-compulsive disorders. Psychometrics include a test-retest kappa of greater than 0.60, a positive predictive value of more than 0.75 for major depression, and a sensitivity of 0.96 and a specificity of 0.88 for the diagnosis of major depression. The Mini-International Neuropsychiatric Interview tool has also been used in a sample of women with PPD to diagnose depression and to establish validity of the Edinburgh Postnatal Depression Scale.[32]

Objective—Examination

Ayurvedic practitioners specifically diagnose disease through examining health history, resistance to disease, lifestyle practices, behaviors, diet, general appearance, speech, voice, weight, skin, stool, and assessing the quality and flow of the pulse (R. Mishra, oral communication, 2009).[17,18] By using a comprehensive system of pulse diagnosis as described in the ancient Sanskrit texts, Ayurvedic practitioners assess the organs, glands, digestion, and numerous other factors including the 7 body tissues: plasma, blood, muscle, fat, bone, nerve, and reproductive fluids (R. Mishra, oral communication, 2009).[18–21]

The patient's health history was significant for seasonal allergies, dry skin, and difficulty falling asleep. Her resistance to illness was low—she complained of frequent upper respiratory tract infections. Lifestyle practices were significant for going to bed at 1:00 AM and getting up with the infant approximately twice per night. The patient recently joined an aerobics class to lose weight. Behaviors

were significant for talking on the phone for 1 to 2 hours per day and rushing through her daily chores. Her dietary history was significant for eating a low-fat diet, skipping breakfast, and not drinking milk. Her vegetable intake consisted of mainly raw vegetables and salads. She drank 4 cups of water daily. Her general appearance was disheveled and anxious with dark circles under her eyes. Her speech was fast, and she spoke in a disjointed manner. Her voice was dry, hoarse, and weak. She appeared underweight. Her skin and stool were dry. The quality of her radial pulse was thin, thready, and weak

Assessment—Diagnosis

On the basis of the history and physical findings, the patient was diagnosed with imbalances in *Prana Vata*, *Apana Vata*, and *Ranjaka Pitta*. According to Mishra, these *Pranic* energies go out of balance easily within the first 6 weeks after childbirth (R. Mishra, oral communication, 2009). In addition to the findings of depression, anxiety, and poor concentration, the rationale for the finding of these imbalances was the disheveled, nervous, anxious, and underweight appearance; dark circles under eyes; quick and disjointed speech; dry hoarse and weak voice; dry stool; dry skin; low immunity to upper respiratory tract infections; and the thin, thready, and weak pulse.

The lifestyle behaviors that contributed to the imbalances were (1) going to bed late, (2) getting up with the infant at night, (3) performing aerobic exercise (overexertion), (4) talking on the phone for 1 to 2 hours per day, (5) rushing through chores, (6) eating a low-fat diet, (7) skipping breakfast, (8) eating raw foods, and (9) not drinking milk (R. Mishra, oral communication, 2009). According to the Ayurvedic texts, these lifestyle habits blocked the flow of *Prana*, burned *Ojas*, promoted toxin accumulation in the *Srotas* (body channels), decreased cellular intelligence, and caused an imbalance of the *Doshas*, thereby resulting in PPD.

Plan

The recommendations made by J. R.'s Ayurvedic practitioner were aimed specifically to correct the *Dosha* imbalance (R. Mishra, oral communication, 2009). In order to improve her sleep quality, the specific regimen prescribed included an early bedtime before 10 PM and having her husband get up with the infant at night to assist her with breastfeeding. It was also recommended that she nap when the baby naps and that she try to eat a healthy diet with a minimal amount of food preparation time (10–15 minutes maximum). The Ayurvedic practitioner also recommended that J. R. find someone to help her with her chores during the day, so that her pace could be more relaxed.

A daily oil massage with almond oil was prescribed to counteract the dryness of *Vata* (R. Mishra, oral communication, 2009).[18] Warm cooked foods that are easily digested were also recommended such as chicken, turkey, fish, *dal* (cooked lentils), cooked grains, warm whole milk, olive oil, *ghee*, and dried fruits and nuts to counteract the *Dosha* imbalance. The Ayurvedic practitioner also advised J. R. not to skip any meals. Because J. R. was losing body fat through breast-feeding, the Ayurvedic practitioner recommended that she needed to put fat back in her diet to increase cholesterol, and ultimately neurotransmitter (*Ojas*) levels, which would decrease her symptoms of depression and correct the *Dosha* imbalance. In order to increase unctuousness or fattiness in her diet, *ghee* or olive oil was recommended to be incorporated into all her foods. In addition, spices, including turmeric, coriander, fennel, cumin, saffron, cinnamon, cilantro, fenugreek, curry leaves, cloves, basil, ginger, and nutmeg, were recommended as an addition to her diet to balance the *Doshas* and calm her brain (Table 3). The Ayurvedic

TABLE 3. Purpose of commonly used spices in Ayurvedic medicine[a]

Spice	Function
Coriander	Eliminates chemicals and wastes from kidneys
Fennel	Decreases gas and normalizes digestion
Cumin	Helps absorb and use nutrients, weight loss
Saffron	Calms brain, antioxidant
Cinnamon	Increases pancreatic sensitivity to insulin
Cilantro	Chelates heavy metals from the body
Fenugreek	Supports the liver, stabilizes blood sugar, and purifies the fat tissue
Curry leaves	Stabilizes blood sugar
Cloves	Relieves congestion, opens channels, and has a cooling effect
Basil	Supports brain activity, lungs, and immune system
Ginger	Burns *Ama*
Nutmeg	Calms the brain, slows gut motility
Turmeric	Antioxidant, detoxifies liver, decreases allergies, clears skin, prevents many diseases such as cancer and Alzheimer disease

[a]From R. Mishra, oral communication, 2009; and from Lad.[18]

practitioner also recommended that J. R. avoid low-fat, dry, and raw foods to correct the *Dosha* imbalance. Finally, the Ayurvedic practitioner recommended that J. R. avoid fried foods, sugar, white flour, and frozen, canned, and microwaved foods because they are hard to digest, do not nourish J. R. or her baby, and encourage the production of toxins in the body. She was asked to follow up with her nurse midwife in 2 weeks. General advice prescribed by Ayurvedic practitioners to promote a healthy lifestyle can be found in Appendix 1.

Follow-up evaluation

The patient returned to her nurse midwife in 2 weeks for a follow-up evaluation and told her that she had followed all the recommendations of her Ayurvedic practitioner but had not yet started counseling. She said that she no longer felt depressed, was enjoying her baby, and felt more rested and energetic. Upon readministration of the Edinburgh Postnatal Depression Scale, the score was now 4. Results of the Mini-International Neuropsychiatric Interview revealed that she no longer met the criteria for PPD.

Herbal formulations

If symptoms persisted after 2 weeks of making these lifestyle and dietary changes, the Ayurvedic practitioner would prescribe an herbal regimen to correct the *Dosha* imbalance. The herbal regimen might consist of herbal transdermal creams to avoid passage into the breast milk (R. Mishra, oral communication, 2009). Specifically, these herbal creams might consist of *Gotu kola, Bacopa monnieri, Shankapushpi, Celastrus panniculatus (jyotishmapi), Ashoka* (no grief), *Terminalia arjuna*, and *Jatamansi*. The routes of delivery are transdermal *marma* points located on specific areas on the palms of the hands, soles of the feet, and the back of the skull (*Tala Hridya* and *Kritkatika*—see Fig 2). By massaging the transdermal herbal creams into these *marma* points, the proper levels of *Prana* can delivered to the heart and mind.

Ayurvedic herbs have recently been cited in current scientific literature as beneficial for depressive and anxious symptomatology and symptoms of chronic stress.[33–36] Although many of the studies are limited by small samples, testing blends rather than single

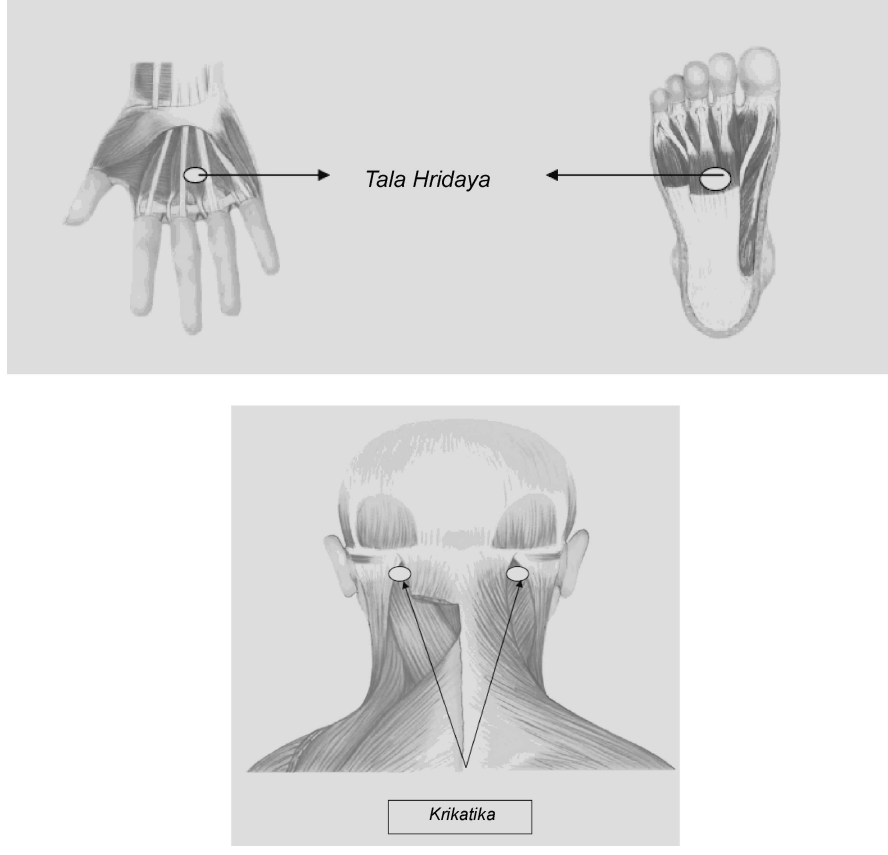

FIGURE 2. *Marma* points for postpartum depression. From R. Mishra, oral communication, 2009.

herbs, and testing only animal models, no adverse effects were found in human studies. In a randomized clinical trial of 40 people who were 18 to 45 years old, *Gotu Kola* was found to have significant anxiolytic and energy-boosting properties when compared to placebo ($P < .05$).[37] In a small pilot study of 7 people, an herbal formulation known as *Brahmi*, which consists of *Bacopa monnieri*, *Asparagus racemosus, Acorus calamus*, and *Saussurea lappa*, was found to significantly decrease anxious mood, tension, depressed mood, and insomnia while improving cognition ($P < .02$ to $P < .001$).[15] *Shankapushpi*, in a blend of other Indian herbs, was found to relieve mild depressive symptoms, relieve irritability, and improve sleep in a sample of 30 postmenopausal women; however, no significance levels were reported by the researchers.[38] Jain et al[39] found that *Shankapushpi* significantly improved depression and memory in a sample of rats ($P < .001$). In an experiment with Swiss, albino mice, a blend of *Celastrus panniculatus, Shankapushpi, Terminalia arjuna, Jatamansi*, and other Indian herbs significantly improved cognition over a 15-day clinical trial.[40] Shah et al found that *Terminalia arjuna* in a blend of other Indian herbs significantly improved depression and cognitive function in a sample of 25 people with a mean age of 27 years ($P < .05$).[41] In another small, randomized pilot study, a blend of *Ashoka* and other Indian herbs significantly relieved depression in 90% of human participants as compared to placebo ($P < .0001$).[42]

POSSIBLE ADVERSE EFFECTS OF AYURVEDIC HERBAL FORMULATIONS

Caution should be exercised when purchasing Ayurvedic preparations. According to the Centers for Disease Control and Prevention, 12 cases of lead poisoning from tainted Ayurvedic herbal preparations were reported among adults in the United States from 2000 to 2003.[43] In addition, several Ayurvedic preparations with detectable levels of lead, mercury, and arsenic were found in 1 in 5 US and Indian herbal preparations sold via the Internet.[44] Although Ayurvedic preparations are not reviewed by the Food and Drug Administration (FDA), there is an import alert that prevents tainted herbs from entering the United States.[45] Because Internet purchases are not monitored, consumers are cautioned against obtaining Ayurvedic preparations online. In addition, to avoid ingesting tainted herbs, Ayurvedic preparations should be purchased only under the guidance of qualified Ayurvedic practitioners who avoid the use of heavy metals in their formulations.[46]

IMPLICATIONS FOR NURSING PRACTICE AND RESEARCH

Ayurvedic medicine may offer an alternative healthcare paradigm that may expand the current set of treatment modalities for patients experiencing PPD. By promoting the *3 pillars of health* through putting healthy fats back in the diet, through massage, through dietary changes, promoting adequate sleep and rest through enlisting the help of significant others, and promoting a low stress and regular daily routine, depressive symptoms may decrease in women with PPD who are concerned about the side effects of antidepressant medications in their newborn infants. Ayurvedic medicines may also offer an adjunct therapy that could be used in concert with antidepressant medications and counseling therapies.

Since only pilot and animal studies have been conducted thus far, randomized controlled trials are needed to examine the efficacy of Ayurvedic medicine as an individual treatment modality, as an adjunct to Western allopathic treatments, and in comparison to Western allopathic medicine. Until randomized clinical trials are conducted, nurses should advise patients seeking to use Ayurvedic herbal preparations that scientific evidence is still lacking for efficacy and safety. In addition, nurses should also advise patients that certain Ayurvedic herbs purchased online from India may be tainted with lead, mercury, and arsenic; therefore, they should seek out the advice of qualified Ayurvedic practitioners through the National Ayurvedic Medical Association before purchasing any herbal preparations.[47]

Nurses seeking to provide Ayurvedic care in the United States may require formal education and certification to practice Ayurvedic medicine and should examine their individual nurse practice acts in order to comply with standards of competent practice.[48] In India, qualified practitioners receive their education from a family lineage or by earning a bachelors degree in Ayurvedic Medicine and Surgery (BAMS) through an accredited university.[49] In the United States, the National Ayurvedic Medical Association is seeking to professionalize the practice of Ayurveda and provides a list of qualified Ayurvedic practitioners.[47] The organization seeks to "establish and maintain standards of education, ethics,

professional competency, and licensing."[48] Nurses are also encouraged to learn more about Ayurvedic medicine by reading Ayurvedic texts (see Appendix 2), discussing Ayurveda with qualified Ayurvedic practitioners, and becoming familiar with the National Ayurvedic Medical Association. Through increased knowledge of the Ayurvedic medical paradigm, nurses will be in a better position to provide safe holistic nursing care for patients who use Ayurveda for PPD.

REFERENCES

1. Mayberry LJ, Horowitz JA, Declercq E. Depression symptom prevalence and demographic risk factors among US women during the first 2 years postpartum. *J Obstet, Gynecol Neonatal Nurs*. 2007;36(6):542–549.
2. Gaynes B, Gavin N, Maltnar-Brody S, et al. *Perinatal Depression: Prevalence, Screening Accuracy, and Screening Outcomes*. Rockville, MD: Agency for Healthcare Research and Quality; 2005. Evidence Report/Technology Assessment No. 119. (Prepared by the RTI-University of North Carolina Evidence-based Practice Center, under Contract No. 290-02-0016). AHRQ Publication No. 05-E006-2.
3. Beck C. Postpartum depression: a metasynthesis. *Qual Health Res*. 2002;12(4):453–472.
4. American Psychological Association. *Diagnostic and Statistical Manual of Mental Disorders*. 4th ed, text rev. Washington, DC: American Psychological Association; 2000.
5. Mayberry LJ, Horowitz JA, Declercq E. Depression symptom prevalence and demographic risk factors among U.S. women during the first 2 years postpartum. *J Obstet Gynecol Neonatal Nurs*. 2007;36(6):542–549.
6. Minkovitz CS, Strobino D, Scharfstein D, et al. Maternal depressive symptoms and children's receipt of health care in the first 3 years of life. *Pediatrics*. 2005;115(2):306–314.
7. Austin MP, Kildea S, Sullivan E. Maternal mortality and psychiatric morbidity in the perinatal period: challenges and opportunities for prevention in the Australian setting. *Med J Aust*. 2007;186(7):364–367.
8. Chung E, McCollum K, Elo I, Lee H, Culhane J. Maternal depressive symptoms and infant health practices among low-income women. *Pediatrics*. 2004;113(6):e523–e529.
9. Horwitz S, Briggs-Gowan M, Storfer-Isser A, Carter A. Prevalence, correlates, and persistence of maternal depression. *J Womens Health*. 2007;16(5):678–691.
10. Josefsson A, Sydsjo G. A follow-up study of postpartum depressed women: recurrent maternal depressive symptoms and child behavior after four years. *Arch Womens Ment Health*. 2007;10(4):141–145.
11. Olson A, Kemper K, Kelleher K, Hammond C, Zuckerman B, Dietrich A. Primary care pediatricians' roles and perceived responsibilities in the identification and management of maternal depression. *Pediatrics*. 2002;110(6):1169–1176.
12. Spinelli MG. Infanticide: contrasting views. *Arch Womens Ment Health*. 2005;8(1):15–24.
13. O'Hara MW, Stuart S, Gorman LL, Wenzel A. Efficacy of interpersonal psychotherapy for postpartum depression. *Arch Gen Psychiatry*. 2000;57(11):1039–1045.
14. Chopra A, Doiphode VV. Ayurvedic medicine: core concept, therapeutic principles, and current relevance. *Med Clin North Am*. 2002;86(1):75–89.
15. Sharma H, Chandola HM, Singh G, Basisht G. Utilization of Ayurveda in health care: an approach for prevention, health promotion, and treatment of disease, II: Ayurveda in primary health care. *J Altern Complement Med*. 2007;13(10):1135–1150.
16. Barnes P, Powell-Griner E, McFann K, Nahin R. Complementary and alternative medicine use among adults: United States, 2002. *Adv Data*. 2004;(343):1–19.
17. National Center for Complementary and Alternate Medicine. Ayurvedic medicine: an introduction. http://nccam.nih.gov/health/ayurveda/D287_BKG.pdf. Accessed November 28, 2008.
18. Lad V. *Textbook of Ayurveda*. Vol 1. Albuquerque, NM: The Ayurvedic Press; 1997.
19. Susruta. *Susruta Samhita*. Edinboro, PA; Delhi, India: Chaukhamba Sanskrit Pratishthan; 2006.
20. Carak. *Carak Samhita*. Varanasi, India: Chaukhambha Orientalia; 2003.
21. Vagbhata. *Ashtanga Hrdayam*. Varanasi, India: Chaukhambha Sanskrit Sansthan; 1987.
22. Golomb BA. Cholesterol and violence: is there a connection? [see comment]. *Ann Intern Med*. 1998;128(6):478–487.
23. Plassart-Schiess E, Baulieu EE. Neurosteroids: recent findings. *Brain Res Brain Res Rev*. 2001;37(19–21):133–140.
24. Genazzani AR, Stomati M, Morittu A, et al. Progesterone, progestagens and the central nervous system. *Hum Reprod*. 2000;15(suppl 1):14–27.
25. Hibbeln JR, Linnoila M, Umhau JC, Rawlings R, George DT, Salem N Jr. Essential fatty acids predict metabolites of serotonin and dopamine in cerebrospinal fluid among healthy control subjects, and early- and late-onset alcoholics. *Biol Psychiatry*. 1998;44(4):235–242.
26. Eriksson M, Eklundh T, Sjoberg S, Angelin B, Nordin C. Cholesterol lowering and cerebrospinal fluid neurotransmitters: increased levels of the anxiogenic cholecystokinin-tetrapeptide during simvastatin administration to healthy male volunteers. *Biol Psychiatry*. 1996;40(4):302–304.
27. Felig P, Frohman L. *Endocrinology and Metabolism*. 4th ed. New York: McGraw-Hill; 2001.
28. National Institute of Health. News from the Women's Health Initiative: reducing total fat intake may have small effect on risk of breast cancer, no effect on risk of colorectal cancer, heart disease, or stroke. http://www.nih.gov/news/pr/feb2006/nhlbi-07.htm. Accessed February 27, 2009.
29. Boath E, Cox J, Lewis M, Jones P, Pryce A. When the cradle falls: the treatment of postnatal depression in a psychiatric day hospital compared with routine primary care. *J Affect Disord*. 1999;53(2):143–151.
30. Lecrubier Y, Sheehan D, Weiller E, et al. The Mini International Neuropsychiatric Interview (MINI): a short diagnostic structured interview: reliability and validity according to the CIDI. *Eur Psychiatry*. 1997;12(5):224–231.
31. Rush A, Pincus H, First M, et al. *Handbook of Psychiatric Measures*. Washington, DC: American Psychiatric Association; 2000.
32. Agoub M, Moussaoui D, Battas O. Prevalence of postpartum depression in a Moroccan sample. *Arch Womens Ment Health*. 2005;8(1):37–43.
33. Bhattacharya SK, Bhattacharya A, Chakrabarti A. Adaptogenic activity of Siotone, a polyherbal formulation of Ayurvedic rasayanas. *Indian J Exp Biol*. 2000;38(2):119–128.
34. Bhattacharya SK, Bhattacharya A, Sairam K, Ghosal S. Anxiolytic-antidepressant activity of Withania Somnifera glycowithanolides: an experimental study. *Phytomedicine*. 2000;7(6):463–469.
35. Muruganandam AV, Kumar V, Bhattacharya SK. Effect of poly herbal formulation, EuMil, on chronic stress-induced homeostatic perturbations in rats. *Indian J Exp Biol*. 2002;40(10):1151–1160.
36. Gupta GL, Rana AC. Protective effect of Withania somnifera dunal root extract against protracted social isolation induced behavior in rats. *Indian J Physiol Pharmacol*. 2007;51(4):345–353.
37. Bradwejn J, Zhou Y, Koszycki D, Shlik J. A double blind, placebo-controlled study on the effects of Gotu Kola (Centella asiatica) on acoustic startle response in healthy subjects. *J Clin Psychopharmacol*. 2000;20(6):680–684.
38. Devi K, Swarup A. Evaluation of clinical efficacy of Menotab in alleviating symptoms of menopausal syndrome: phase III open clinical trial. *Antiseptic*. 2000;98(3):87.
39. Jain N, Ohal C, Shroff S, et al. Clitoria ternatea and the CNS. *Pharmacol Biochem Behav*. 2003;75(3):529–536.

40. Milind P, Mani V. Memory enhancing activity of Abana®: an Indian Ayurvedic poly-herbal formulation. *J Health Sci*. 2007;53(1):43–52.
41. Shah L, Mazumdar K, Nayak P, Shah A, Shah N, Parkar S. Clinical evaluation of Geriforte in patients of generalized anxiety disorder. *Bombay Hosp J*. 1990;32(3):29.
42. Singh S, Kala S. Evaluation and efficacy of menosan: a short-term pilot study. *Obstet Gynaecol Today*. 2002;7(12):727–730.
43. Centers for Disease Control and Prevention. Lead poisoning associated with ayurvedic medications—five states, 2000–2003. *MMWR Morb Mortal Wkly Rep*. 2004;53(26):582–584.
44. Saper RB, Phillips RS, Sehgal A, et al. Lead, mercury, and arsenic in US- and Indian-manufactured Ayurvedic medicines sold via the Internet. *JAMA*. 300(8):915–923.
45. US Food and Drug Administration. Use caution with Ayurvedic products. http://www.fda.gov/consumer/updates/ayurvedic101608.html. Accessed March 15, 2009.
46. Khandpur S, Malhotra AK, Bhatia V, et al. Chronic arsenic toxicity from Ayurvedic medicines. *Int J Dermatol*. 2008;47(6):618–621.
47. National Ayurvedic Medical Association. Protecting the interest of the ayurvedic physician. http://ayurveda-nama.org/. Accessed March 14, 2009.
48. Medscape Nurses. Boards of nursing in the United States: state-by-state Web links. http://www.medscape.com/viewarticle/482270. Accessed February 27, 2009.
49. Wujastyk D, Smith F. *Modern and Global Ayurveda: Pluralism and Paradigms*. Albany: State University of New York Press; 2008.

APPENDIX 1

General Ayurvedic Advice to Promote a Healthy Lifestyle (R. Mishra, oral communication, 2009)

1. Eat 3 warm, cooked, nourishing meals every day. Cooked foods are easier to digest than raw foods.
2. Avoid leftovers, soy products, prepackaged foods, fried foods, sugar, white flour, and frozen, canned, microwaved, and artificial foods, which are difficult to digest.
3. Favor fresh fruits, vegetables, grains, nuts, seeds, dairy products, and legumes.
4. Favor hot milk at night. Hot milk produces tryptophan, which is a precursor to serotonin and has a calming effect on the nervous system. Calcium is also best absorbed at night.
5. Limit intake of red meat and favor chicken, turkey, and fish.
6. Eat healthy fats (olive oil, sesame oil, *ghee*) and avoid hydrogenated fats and trans-fatty acids, which are difficult to digest and may promote atherosclerosis.
7. Eat raisins, figs, apricots, almonds, and dates regularly. All are antioxidants.
8. Avoid cold foods and beverages, which may impair functioning of digestive enzymes that operate in a narrow temperature range. Drink room-temperature spring water throughout the day.
9. Chew your food well to ease digestion.
10. On a scale from 1 to 10, with 10 being very full, stop eating when you reach a 6.
11. Sit quietly for 5 to 10 minutes after eating to aid digestion.
12. Do not eat on the run or while standing, watching television, and reading, Do not eat while involved in an intense discussion, or emotionally upset.
13. Do not eat until the last meal has been fully digested (eat when hungry).
14. Do not overeat.
15. Eat the heaviest meal at noon.
16. Eat a light dinner.
17. Keep a regular routine every day. The body functions best with going to bed, arising, and eating meals at the same time every day.
18. Avoid mental strain and overstimulation.
19. Go to bed on time, preferably before 10 PM.
20. Decrease stimulants and avoid alcohol, coffee, and caffeinated tea.
21. Seek pleasant natural environments and the tonic of laughter.
22. Avoid watching violent, shocking entertainment.
23. Exercise regularly. Aerobic exercise is good but not when done to an extreme. Overexercise can burn too many fats from the body and deplete hormones and neurotransmitters that depend on adequate fat sources.
24. Ten minutes of daily gentle stretching or yoga will aid in maintaining flexibility.

APPENDIX 2

Recommended Reading

1. Caraka. *Caraka Samhita*. Sharma P, trans. Varanasi, India: Chaukhambha Orientalia; 2003.
2. Lad V. *Textbook of Ayurveda*. Vol 1. Albuquerque, NM: The Ayurvedic Press; 1997.
3. Lad V, Crowther G, Humphreys L, Walston Y, Werneke AA. *Textbook of Ayurveda, Volume Two: A Complete Guide to Clinical Assessment*. Albuquerque, NM: The Ayurvedic Press; 2006.
4. Lonsdorf N, Butler V, Brown M. *Woman's Best Medicine*. New York, NY: Penguin Putnam; 2000.
5. Ninivaggi F. *Ayurveda: A Comprehensive Guide to Traditional Indian Medicine for the West*. Westport, CT: Praeger; 2008.
6. Reddy K, Egenes L, Mullins M. *For a Blissful Baby: Happy and Healthy Pregnancy With Maharishi Vedic Medicine*. Brooklyn, NY: Lantern Books; 2000.

7. Sharma H, Clark C. *Contemporary Ayurveda: Medicine and Research in Maharishi Ayurveda*. 5th ed. Philadelphia, PA: Churchill Livingstone; 1998
8. Susruta. *Susruta Samhita*. Singhal G, trans. Edinboro, PA; Delhi, India: Chaukhamba Sanskrit Pratishthan; 2006.
9. Vagbhata. *Ashtanga HrdayamVagbhata*. Gupta A, trans. Varanasi, India: Chaukhambha Sanskrit Sansthan; 1987.