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FOREWORD

I want to gratefully acknowledge Patricia Turpin as contributing editor to this special issue on depression. The number of quality submissions on this topic exceeded expectations. As a consequence, some articles on depression will be published in the next issue. Jonathan Zuess, the incoming editor, in the first of a two-part series, reviews and synthesizes theories drawn from a wide range of disciplines and cultures regarding the adaptive functions of depression. He presents an integrative model for understanding its etiology. In Part 2, to be published in the next issue, he develops the model as an integrative approach to assessment and treatment of depression. Women and depression are the specific focus of the subsequent articles. Aviva Romm describes a phytotherapist's approach to treating women with depression, emphasizing the holistic philosophy practiced by most Western herbalists. Rosa Schnyer and her colleagues present a conceptual framework and two case reports using traditional Chinese medicine acupuncture treatment for depression during pregnancy.

A poem, research abstracts, book reviews, and a video review follow the thematic topic. In the last section are abstracts from the American Public Health Association Special Primary Interest Group on Alternative and Complementary Health Practices.

To your good health,
RENA J. GORDON, PhD
Editor Emeritus, *Complementary Health Practice Review*

Depression Is a Timely Topic

I am pleased to write an introduction to this issue of *Complementary Health Practice Review* that focuses on depression. Depression, one of the major health care problems across cultures, has no effective system of biopsychosocial treatments to identify and/or treat it, despite its apparent treatability. As a result, individuals suffer needlessly.

The U.S. health care system also is negatively affected by this lack of an effective biopsychosocial system to treat depression. Research indicates that depressed patients use health care services 3 times more often than nondepressed patients do (Katon & Schulberg, 1992), and their medical costs are twice as high as costs for nondepressed patients (Simon, Ormel, & VonKorff, 1995). They make 7 times more visits to the hospital emergency room as nondepressed patients do (Johnson, Weissman, & Klerman, 1992). Depression has been found in 20% to 50% of the medically ill elderly (Massey, 1996), and depression rates for women are twice that for men (Schwartzman & Glaus, 2000).

Such frequency has consequences. Within medicine, these consequences are considerable. It has been observed that psychiatric comorbidity is the primary predictive factor for rehospitalization for medical problems, up to 5 years after initial hospitalization, controlling for medical problem and health status (Katon, 1990). The World Health Organization has identified depression as one of the most frequent diagnoses seen in primary care across cultures (Uston, 1994). Depression diagnoses have been associated with increased risk of rehospitalization, increased risk of institutionalization, and increased health care costs (Mayou, Hawton, & Feldman, 1988).

Depression has been found to be comorbid with cardiac problems and with chronic medical conditions in general (Katon & Schulberg, 1992). There are numerous examples of comorbidity with medical problems such as irritable bowel syndrome, pain conditions, sleep disorders, and dementia, (Atkinson & Zich, 1990) and increased mortality with myocardial infarction (Frasure-Smith, Lesperance, & Talajic, 1993) and stroke (Morris, Robinson, Andrzejewski, Samuel, & Price, 1993). Depression increases the risk of heart disease (Schwartzman & Glaus, 2000).

These issues are particularly of concern because, in general, detection rates have been disappointing. Despite high prevalence, detection is missed in one third to one half of all patients (Katon & Roy-Byrne, 1989). Even if detected in primary care, follow-up and treatment is limited and often ineffective (Bhatia & Bhatia, 1999). Primary care physicians provide a greater proportion of mental health services to the poor and elderly (Valenstein, 1999). In hospitals, a rate of 11% detection has been found (Mayou et al., 1988). In all settings, only 14% to 50% of patients with depression are diagnosed correctly (Schubert, Burns, Paras, &

Sioson, 1992). I participated in a study with a sample of 128 medical patients in four Vermont hospitals. Forty-seven percent of the patients were measured “some degree depressed” using the Beck Depression Inventory, yet there were only 3 cases in which depression was documented and one mental health consultation requested (Vermont Program for Quality in Health Care, 1994).

So this journal issue is timely. The problem is vast. Regardless of our philosophical, theoretical, or clinical orientation or choice of effective interventions, there are major leaps to be made in creating effective systems of care for people who suffer with depression. I ask you to read this thought-provoking and insightful issue of *Complementary Health Practice Review* to examine the challenge of responding to the need for integrated biopsychosocial systems of care. Ultimately, it is against that standard that our efforts will be judged.

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An Integrative Approach to Depression: Part 1—Etiology

Jonathan Zuess, MD

This two-part series presents an integrative model for understanding and treating depression, encompassing the biological, psychological, social, and spiritual levels of the human being. Major depressive disorder may be seen as a dysregulated form of an adaptive response. Theories regarding the adaptive functions of depression drawn from psychology, evolutionary biology, ethology, neuroendocrinology, dream research, the philosophies of naturopathy and homeopathy, and the spiritual traditions of the Native Americans and other cultures are reviewed and synthesized. This model provides the basis for the rational application of a variety of complementary and conventional therapies.

In 1930, a Crow medicine woman named Pretty Shield spoke with an ethnographer who recorded her stories. She told of the events that occurred in a time of despair following the death of her baby daughter and of how they led up to her initiation as a medicine woman:

I had slept little, sometimes lying down alone in the hills at nights. . . . I ate only enough to keep me alive, hoping for a medicine-dream, a vision, that would help me to live and to help others. One morning . . . I saw a woman ahead of me . . . I saw that she was not a real woman, but that she was a [sacred] Person, and she was standing beside an ant hill. . . . “Rake up the side of this ant hill and ask for the things that you wish, daughter,” the Person said, and then she was gone.

Now, in this medicine-dream, I entered a beautiful white lodge, with a war-eagle at the head. He did not speak to me, and yet I have often seen him since that day. And even now the ants help me. They are my medicine. (Linderman, 1932, p. 166)

In her surrealistic account, Pretty Shield encapsulates many of the messages of this article. As she described, and as we will see, depression is about much more than we conventionally appreciate in biological psychiatry. Depression can be a potentially adaptive process. It is intimately bound up with intense dreaming. It functions as the mediator of personal transformation, both internal and external: psychologically, biologically, socially, and even spiritually. Only if this healing process is blocked does it become an illness.

Beyond the traditions of Native American culture, evidence derived from many fields of Western science also converges on the conclusion that the symptoms of depression may serve a function. Drawing from evolutionary biology, ethology, psychology, ethnography,

sleep research, epidemiology, and the alternative philosophies of healing found in naturopathic and homeopathic medicine, this article grounds these Western perspectives in the traditional wisdom of native cultures. From this cross-fertilization emerges a truly integrative framework for understanding and managing the patient with depression.

More than ever, our need is great for a new way to understand depression. Depression is currently the leading cause of disability in the United States (Lewis, 2001). It ranks second only to hypertension as a reason for outpatient visits to primary care physicians (Ballenger et al., 1999). Practitioners of complementary and alternative medicine (CAM) are at the forefront of caring for these patients. In fact, their practices contain an even greater percentage of patients with depression than do those of non-CAM practitioners, according to a study published recently in the *American Journal of Psychiatry* (Unutzer et al., 2000).

Disturbingly, in Western nations, the incidence of major depressive disorder (MDD) has increased by about 10% in each decade since 1910 (Cross-National Collaborative Group, 1992). This is considered to be a true increase in incidence and not merely an increase in case finding. The illness has also been occurring at younger and younger ages (Cross-National Collaborative Group, 1992). According to the World Health Organization, although depression currently ranks fourth overall among causes of disability in developing nations, it is projected to steadily increase in incidence to become the leading cause by the year 2020 as these nations become Westernized (Murray & Lopez, 1997).

These figures query the soundness of Western medicine and Western society in general: Why is the disorder so pervasive among us? Something would appear to be very wrong about the way we are living and/or the way we are managing depression.

To better manage the disease, we must first better understand its nature. We will begin with what we know of the very origins of humanity.

DEPRESSION AS A HEALING RESPONSE

For Nature ever faithful is/to such as trust her faithfulness.

—Ralph Waldo Emerson

The Evolution of Depression: Insights From Darwinian Medicine

When we look at depression through the lens of our understanding of the evolutionary process, we can see very suggestive evidence that the ability to become depressed has been selected for evolutionarily. According to Randolph Nesse (2000), a leading proponent of the emerging field of Darwinian medicine, one of the strongest supporting points is simply that so many people have depression. About 17% of the U.S. population has had MDD at some time in their lives (Kessler, McGonagle, Swartz, Blazer, & Nelson, 1993). Subsyndromal depressive states are even more common (Johnson, Weissman, & Klerman, 1992; Judd, Paulus, Wells, & Rapaport, 1996). Furthermore, there is no clear or consistent point at which we can differentiate pathological depression from normal experience, despite the apparent specificity of the criteria with which the American Psychiatric Association's *Diagnostic and Statistical Manual (DSM)* defines MDD (Kendler & Gardner, 1998).

Second, as Nesse (2000) noted, depression shows a pattern that is quite unusual among diseases in that its incidence is highest at the ages when reproductive value peaks. Had depression not provided some selective advantage, then it should have quickly bred out of the population. Third, Nesse explained that the intrinsically aversive nature of the symptoms of

depression is significant. Intrinsically aversive symptoms, such as pain and nausea, are the most powerful mediators of behavioral change. Elaborate neuroendocrine systems mediating such symptoms were highly selected for during evolution because of their ability to change behavior in an adaptive way and so further the goal of survival. In the same way, the elaborate neuroendocrine system mediating the symptoms of depression may have been selected for as well.

These points are further supported by the existence of animal models of depression that may represent phylogenetic precursors of what humans experience as depression. Ethologists, who study animal behavior, note that animals who have lost their social rank display behaviors very similar to those of depressed humans. They are less willing to explore or engage in new activities, for example, just as are depressed humans (Fossi, Faravelli, & Paoli, 1984; Keeney & Hogg, 1999). There is also evidence from studies of monkeys, mice, and fish that serotonin mediates these changes in behavior and brain functioning, just as it does in humans (Fossi et al., 1984; Raleigh, McGuire, Brammer, Pollack, & Yuwiler, 1991; Winberg & Nilsson, 1993).

The question one might ask about this is, If depression has been conserved through evolution, what selective advantage does it offer that would allow this to happen? Or an alternative way of phrasing the question is, What is the purpose of the symptom cluster we call depression?

The idea that symptoms may serve a purpose is a familiar theme in the CAM modalities of naturopathic and homeopathic medicine. In these systems of medicine, symptoms in general are considered to be manifestations of the patient's healing responses. Homeopathic authority George Vithoukas (1980), for example, wrote, "Symptoms, or groups of symptoms, are erroneously called 'diseases,' when in reality they represent the result of the struggle of the defense mechanism to counteract the morbid stimulus" (p. 16). Thus, symptoms should not be suppressed; rather, they should be supported in their adaptive role.

Western psychological theories of depression also contain resonances of this idea. Over the years, a large literature has developed on the adaptive purposes that the symptoms of depression may serve. The theories that have been offered can be divided up according to the level of human beings that they primarily address: biological, psychological, social, and spiritual. When we divide them up in this way, we find that although these theories use different terms, they do not contradict each other. Rather, they are mutually complementary. Like a mosaic, we can add one fragment at a time until finally, the overall picture of the adaptive function of depression is apparent.

The Functions of Depression: The Biological Level

Several theorists have observed that depression usually involves markedly lowered motivation and decreased physical activity as core components of the syndrome. The role of these symptoms, they suggest, is to encourage the conservation of physical resources in hard times. For example, when food supplies are scarce and long-distance travel is not feasible, as in the onset of winter, depression might ensue to promote conservation of energy. Schmale and Engel's (1975) conservation-withdrawal model of depression, Nesse's (1991) propitiosness hypothesis, and Seligman's (1975) learned helplessness model all suggest that depression functions in this way to regulate investment of resources according to the likely pay-offs. This is adaptive for the individual because it maximizes behavioral efficiency.

Klinger (1975, 1977) developed a more complex version of this model, called the incentive-disengagement theory of depression, which he based on his studies of both humans and ani-

mals. He noted that depression in humans and depressive-like behavior in animals are common not only in times of scarcity but also more generally in those who are pursuing unreachable goals at any time. If for some reason there is an obstacle to the attainment of a goal, efforts to achieve the goal will increase at first, but eventually depression ensues to foster disengagement and so end the cycle. Symptoms such as decreased motivation, loss of interest, and low energy are thus specifically designed to promote giving up an unattainable goal. Again, this maximizes efficiency of physical activity.

The cycle consists of four phases, Klinger (1975, 1977) wrote: first, increased activity or invigoration to overcome the obstacle; followed by aggression in a last-ditch effort to succeed; then giving way to depression, grief, and apathy; and finally detachment or recovery. It is interesting to note that the clinical course of the other major mood disorder—bipolar disorder—follows this progression as well, often in a very exaggerated form. In bipolar disorder, we see increased activity in the manic phase, often culminating in aggressive acts, and then a switch over to a depressed phase after the manic episode. This might then represent a caricatured form of the incentive-disengagement cycle that is biologically hardwired into our brains.

The incentive-disengagement model is supported by research showing that affective state regulates goal pursuit (Martin & Tesser, 1996). Low mood states decrease goal-directed activity, and elevated mood states tend to increase goal-directed activity. We have actually codified these observations as one of the *DSM* criteria for the diagnosis of mania and hypomania: increased goal-directed activity (American Psychiatric Association, 1997).

Klinger and the other theorists mentioned above argue that mood is a master regulator of physical and metabolic activity. Their argument seems especially plausible for explaining atypical depressive states, as exemplified by seasonal depression and bipolar depression, which are both much like a semihibernation response (Demaret, 2000). These patients complain of fatigue and a heavy feeling in their limbs that inhibits movement. They overeat and oversleep, much like hibernating animals. Increased thermogenesis also occurs at rest, another feature in common with hibernation (Avery, Shah, Eder, & Wildschiodtz, 1999). They also have prominent anxiety symptoms that encourage remaining at home, like hibernating animals in their dens. Atypical depressions appear particularly suited for conserving energy, and as the seasonal and bipolar forms attest, they are likely to be more biologically entrained than are typical forms of depression.

Thankfully, major disruptions in food supply that might warrant a hibernation response are less of a problem for most contemporary humans than they were during our evolutionary past. Despite this, atypical depression remains common today; in fact, it is the most common form of depression in outpatients (Nierenberg, Alpert, Pava, Rosenbaum, & Fava, 1998). The reasons for this are unclear. However, if the characterization of atypical depression as a hibernation-like response is correct, this suggests parallels in the causation of the two. The hibernation response is triggered by alterations in day length and in diet. We know that seasonal depression is also triggered by alterations in day length. Alterations in diet, however, have been less well studied as a trigger for depression. Studies do show that the consumption of simple sugars and caffeine is detrimental in atypical depressive syndromes (Christensen, 1991; Kreitsch, Christensen, & White, 1988). This is significant because both simple sugar consumption and caffeine induce severe alterations in carbohydrate metabolism and insulin secretion, reproducing the metabolic pattern seen in animals in the fattening season, when they are preparing for hibernation (Bartness, 1990; Boswell, Woods, & Kenagy, 1994). Weight loss diets also reproduce the pattern seen in animals at the end of the fattening season, just before hibernation, when food supplies are scarce. Studies of the effects of weight loss

diets on mood have had mixed results and have not controlled for important confounders such as cultural attitudes toward thinness and weight loss, but they have shown that dieting does indeed cause depression in some individuals (Karlsson et al., 1994; Wilson, 1993). The modern Western diet, high in simple sugars and caffeine, and punctuated with episodes of dieting, may thus account in part for the high incidence of atypical depression.

The biological functions of depression appear to be hardwired into us, despite the fact that they are less useful today than they once were, preparing us for a hibernation that never arrives. If depression still has some adaptive value for us in the 21st century, it is more likely to be through its psychological and social functions.

The Functions of Depression: The Psychological and Social Levels

Sigmund Freud's classic *Mourning and Melancholia* (1917/1957) represents the beginning of modern psychological discussion on the adaptive purposes of depression. Freud suggested that the depressed person has turned inward his or her anger at a lost love object or a frustrating needed object. This would then be adaptive in the sense that it would avoid a direct expression of hostility that might damage the needed or wanted object. Both psychological and social purposes would thereby be served.

The idea that depression is a mechanism to avoid overt hostility against important others is a theme that has been elaborated on in more recent decades. The social competition hypothesis of depression, presented by Price and others in 1994, sees depression as a means of inhibiting conflict in hierarchy disputes (Price, Sloman, Gardner, Gilbert, & Rohde, 1994; Sloman, Price, Gilbert, & Gardner, 1994). The authors based their hypothesis on clinical evidence of depression precipitated by social competition and resolved by reconciliation. The symptoms of depression, they said, are specifically intended to promote yielding to dominant figures. Furthermore, the negative thinking associated with depression is intended to deceive the subjects themselves into thinking that they are ineffective or worthless and no longer a threat. These authors call depression the involuntary subordinate strategy, and they propose that it is a built-in executive function of the brain.

One example of this that they cite is in victims of domestic violence, who, while in the abusive relationship, often have depressive ideations and blame themselves for the violence. After these victims leave the relationship, however, they blame the partner. This is evidence for the operation of a very powerful involuntary subordinate strategy that alters the subject's behaviors, feelings, and even cognitions to maintain the existing social dominance hierarchy.

Such a strategy would be highly selected for genetically, they argued. Our species evolved in a group-living context, and this strategy tends to facilitate group cohesion and so further the overall interests of the group. Depression would thus be one example of an altruistic behavior, many of which have been described in ethological studies (Krebs, 1987). Pharmacological studies also provide evidence that social competition underlies depressive behavior in animals. For example, treatment with antidepressants promotes social dominance in monkeys (Raleigh, Brammer, McGuire, & Yuwiler, 1985; Raleigh et al., 1991).

One apparent objection to the natural selection argument is that depression tends to inhibit interest in reproduction, so it would tend to produce a selective disadvantage for the depressed individuals. This objection has been answered by the concept of so-called inclusive fitness, which also derives from ethological research (Hamilton, 1963; Krebs, 1987). The basic idea here is that genes are shared in a kinship group, and it is really the kinship group as a whole that is responsible for passing on these genes rather than the individuals themselves. Because depression is a means of furthering the interests of group stability, it

confers a selective advantage to the entire kinship group, thus increasing its inclusive fitness.

Another apparent challenge to the social competition hypothesis is that depression does not necessarily inhibit aggression; rather, it often increases expressions of aggression. This objection has been reconciled by the authors of the model by taking into account the idea of up-hierarchy aggression (Sloman et al., 1994). Their theory suggests only that aggression is inhibited against those with more power; in other words, only up-hierarchy aggression is inhibited. Aggression may then be directed against those with less power. It is common for depressed patients to take out their anger on those they perceive to be less powerful, for example, children, animals, or inanimate objects. This phenomenon of increased down-hierarchy aggression is predicted by the social competition hypothesis.

Swedish psychoanalyst Emmy Gut (1989) offered a model of depression that complements the social competition hypothesis. In her model, however, she focused more on the internal experience of depression than its external manifestations. The symptoms of depression, she said, are intended to promote withdrawal and introspection during times of conflict or trouble, to allow the individual to reevaluate his or her situation and responses to it, and to come to a new way of dealing with it. The person may therefore go through a type of inner transformation that can allow the person to subsequently reorient himself or herself socially as well.

Gut (1989) called this transformative process the depressed response. She compared it with a number of other adaptive responses that are built in to the human body and mind, such as the immune response and the vomiting response. For example, in the immune response, the body responds to the challenge of an infectious organism by activating the fever center in the brain and causing the outpouring of large amounts of interferon from white blood cells. Fever and interferon produce some very uncomfortable symptoms, such as muscle aching, malaise, and chills. These symptoms are part of the healing response: They are intended to induce the person to rest, stay warm, and conserve his or her resources for the fight against the infection.

Similarly, the vomiting response is produced when we eat noxious or poisonous substances. The brain's vomiting centers are activated, which is an adaptive response designed to cause the unpleasant symptoms of vomiting and anorexia in an attempt to get rid of the noxious substance and to rest the digestive tract and allow it to recover.

Gut (1989) suggested that the depressed response is similar. It is produced when we encounter difficult emotional challenges, such as an interpersonal conflict. Various neuroendocrine centers are then activated, producing the unpleasant symptoms of depression, which are intended to encourage us to withdraw, focus inward, and undergo an inner restructuring to help deal with the challenge. The inner restructuring they promote enables the person to alter his or her way of responding to the external conflict and thus adapt to it or overcome it. The unpleasant symptoms of depression are thus manifestations of the healing response.

Once such a restructuring occurs, wrote Gut (1989), the depressed response will resolve on its own, much as an immune response to an infection resolves on its own when it overcomes the infection. Gut emphasized that the successful depressed response enables the person to reach a higher level of adaptation than ever before, much as a person who has recovered from an infection usually becomes immune to further infection by that organism.

Gut's (1989) model of the depressed response adds an extra level of subtlety to the social competition hypothesis in that it describes the inner process set in motion by social conflict.

Her focus on the transformational potential of depression has compelling parallels with the insights of numerous spiritual traditions, as we will see.

The Functions of Depression: The Spiritual Level

Both Eastern and Western religions speak of a stage in spiritual progress characterized by feelings of despair and hopelessness. From the Zen initiate's experience that everything is *dukkha* (profoundly unsatisfactory), the despair leading to enlightenment, to the "dark night of the soul" of St. John of the Cross (1959), to the "cloud and thick darkness" that the Psalmist describes as surrounding God (Ps. 97:2) and that Job experienced in his melancholic depression prior to hearing the voice of God from out of the whirlwind, intense depressive symptoms are seen as passageways to higher states of awareness. As Chassidic mystic Rebbe Nachman of Breslov wrote, "The descent is for the sake of the ascent" (*Likutei Moharan* 141:22). Medieval Christian mystic Meister Eckhart also explained, "Truly, it is in the darkness that one finds the light, so when we are in sorrow, then this light is nearest of all to us."

According to the Psalms, God listens more closely to the prayers of the brokenhearted and the sick than to any other prayers (Ps. 34:19, 102). Depression is recognized as an especially auspicious time for involvement in spiritual activities. Indeed, the internal preoccupation and social withdrawal of the depressed response seem designed to promote prayer and meditation (Zuess, 1998).

The vision quest of the Native Americans deserves special mention here as a striking example of a spiritual activity intended to be undertaken in hard times. Ethnographers have found that there are a number of elements in the vision quest that are consistent across many Native American cultures (Irwin, 1994). The vision quest takes place in times of troubles, as an attempt to find some way of healing. Individuals will go off into isolation, into an uninhabited area. They will fast, and they will allow themselves to be fully preoccupied with the problem, generally praying for assistance. All of these activities are intended to help them achieve the vision. The vision is a very powerful and potentially transformative experience. It is described in a surrealistic, symbolic language that draws on the symbols that are extant in the individual's culture. There is agreement among ethnographers that the visions actually occur in a vivid dream state (Irwin, 1994). The elements of the vision quest are explicitly intended to produce this intensified state of dreaming.

The following account of a vision quest came from a man of the Omaha people, recorded around 1930:

He came to the hilltop . . . he scooped a bedding place in a bank of soft earth to sleep in. He slept by day and watched by night, and cried to Wakonda at sun-up. . . . The fourth day the sun came up with a thick fog so he could not see. . . . Then the fog lifted for a moment and he saw through it a figure as large as a man but looking like an owl, and lots of small owls of common size flying over its head. A wind of fog whirled over him and covered him like smoke. His body felt like it was being turned inside out . . . leaving it clean-like. (Fortune, 1932, p. 42)

These dreams can have the ability to transform individuals and sometimes even significantly alter their social status. For example, in Pretty Shield's case, her vision, or "medicine-dream," recounted at the beginning of this article gave her access to healing powers that she could use to help others as a medicine woman. She thus took on a new social role after she had lost her baby and her role as a mother.

A final element often associated with vision quests is that the power of the vision often requires validation by the elders of the community. The change in status heralded by the dream needs to be mediated through the community's existing power structure. The elders have the power to either validate the message of the dream, or not.

Intriguingly, the elements of the vision quest parallel the elements of depression. The vision quest occurs in times of trouble or psychosocial stress. Depression, too, commonly occurs at these times. In Pretty Shield's case, for example, the stressor was the death of her baby daughter. Isolation during the vision quest is also seen in depression, with its promoting the desire to withdraw and be alone; Pretty Shield described how she went off alone into the hills during her vision quest. Fasting during the vision quest corresponds with the loss of appetite, which is usual during depression; as Pretty Shield stated, "I ate only enough to keep me alive." Preoccupation with problems during the vision quest corresponds with the desperate preoccupation or rumination seen in depression; as Pretty Shield stated, "[I was] hoping for a medicine-dream, a vision, that would help me to live." Sleep disruption also occurs during the vision quest, as it does in depression; in Pretty Shield's words, "I had slept little." In the Omaha man's account, "He slept by day and watched by night."

Finally, the intense dreaming of the vision quest also occurs during depression. Research in sleep laboratories confirms that depression serves to greatly emphasize and intensify REM sleep, the period when most dreaming occurs (Dubovsky & Buzan, 1999). Depressed people spend double the period of time in REM sleep than do nondepressed controls. They also enter the dream state much more rapidly on falling asleep. The marked prominence of REM sleep in depression is one of the most reproducible and reliable of all objective findings in depressed patients. Measuring REM sleep abnormalities can even be used to diagnose depression; in fact, it is the most sensitive laboratory test known for depression (Rush et al., 1997). Intense dreaming is a key part of the syndrome of depression, just as it is a key part of the vision quest.

The parallels between the vision quest and depression are significant. Much like Gut's (1989) model of the depressed response, the vision quest also facilitates reevaluation and inner restructuring and then reintegration into society with a change in social role. It can allow individuals to disengage from their previous roles and significantly alter their position in the existing hierarchy. It can thus allow them to overcome conflicts. One could venture to say that the vision quest represents a socially validated means of cooperating with the transformative function of depression. Incorporating the spiritual value system of the culture, it consciously integrates all levels of the adaptive functions of depression.

An ancient Jewish tradition called the *taanit halom*, or "dream fast," contains elements in common with the Native American vision quest. Like the vision quest, it makes the connection between low mood, fasting, intense dreaming, and socially mediated transformation. In the dream fast, described in the Talmud, a person with a depressed mood who has a dream fasts and has the dream interpreted in the presence of three people who recite "verses of transformation" for them, which are quotations about transformation from the Torah (Bible) (B. *Shabbat* 11a; B. *Berachot* 55b; *Mishnah Berurah* 220:1,2). Again, dreams are the key element here. Some Orthodox Jews still practice the dream fast today. Talmudic teaching describes dreams as "a sixtieth of prophecy" (B. *Berachot* 57a), often containing important messages from higher spiritual realms (Luzzatto, *Derech Hashem* 3:1). People are also encouraged to make a *she'elat halom*, a "dream question," prior to going to sleep to obtain answers to specific problems in life (Luria, *Likutei Hashas, Likutim Me'etz Hachayim*).

The central role of dreams in depression and in these spiritual traditions may appear puzzling. When one understands the true significance of dreams, though, the reason for their centrality becomes clear.

Why Dreams Are the Key to Depression

The relationship between dreams and depression can be discerned by looking at some more data from sleep research. If you take healthy controls and people with mild depression and selectively deprive them of dreams by disrupting their REM sleep, their mood worsens (Ellman, Spielman, Luck, Steiner, & Halperin, 1991). Studies have also shown that people who are in stressful situations or undergoing difficult learning tasks—such as students in examinations—spend more time in the REM sleep state (Cheeta, Rught, van Proosdij, & Willner, 1997; Smith & Lapp, 1991). If, for example, people are given a learning task during the day and then that night are deprived of REM sleep, they do not retain their learning (Doot, 1996; Karni, Tanne, Rubenstein, Askenasy, & Sagi, 1994). They are actually unable to learn.

Through these studies and others, we have come to understand that REM sleep has an important role in the regulation of affect and the ability to learn. REM sleep and dreaming appear to be a special mode of the brain developed in mammals to maximize the efficiency of use of the prefrontal cortex (Winson, 1985). REM sleep is a very high-order processing, integrating, and problem-solving mode of the brain. It is so complex that it requires that most of the brain be available. The only time this can occur is when the brain is not otherwise active—when we are asleep. Mammals developed the ability to store information gathered during the day in a temporary memory area and then process it at night during sleep. During sleep, the prefrontal cortex would be available because it would be freed from having to make moment-to-moment decisions as it would normally have to do during the day. This is similar to the way we can set our computers to perform certain functions at night, such as download our e-mail, when we are not using them for other things. This maximizes the efficiency of the system.

In contrast to the situation in healthy controls and the mildly depressed, who feel worse if deprived of their REM sleep, patients who are severely depressed feel better if deprived of their REM sleep (Ellman et al., 1991). In fact, this is how most antidepressant medications are believed to work. Antidepressants selectively disrupt REM sleep (Ellman et al., 1991).

What do depressed patients dream about? It has been found that they tend to dream more about past events and that their dreams contain more childhood elements and family members. Patients who are severely depressed tend to have dreams with hostile or threatening themes (Weinstein, Schwartz, & Arkin, 1991).

In putting together all this information about dreams and depression: First, dreams are a processing, integrating, and problem-solving mode of the brain. When we are confronted with emotional challenges, dreaming goes into high gear to help us cope. In depression, we attempt to address the current stressful situation using the basic system of beliefs we formed in the past. This is how we process information in general. We take in new data and we compare it with what we already know, and that is the way we make sense of it. This process goes into high gear during depression. Hence, we find that in depression, dreams tend to contain themes of the past and of childhood. This is related to the accessing of the person's most basic beliefs, which were formed in his or her early years.

Second, in patients who are mildly depressed, this processing mode is at least partly effective in helping them cope. That is why they are only mildly depressed. However, as cognitive

therapists will attest, patients who are severely depressed tend to have distorted or unrealistically negative basic beliefs about the world and about themselves (Newman & Beck, 1990). It makes sense, then, that going back to those negative basic beliefs in dreaming would actually worsen mood in these patients and perpetuate or intensify their depression. Hence, we find that severely depressed patients are those who have hostile and threatening themes in their dreams, reflecting their negative basic beliefs. In addition, we find that drugs that disrupt REM sleep, such as the antidepressants, are a useful treatment in these patients. Antidepressants work by blocking REM sleep; that is to say, they partially block off access to the negative beliefs and the pain of the past by interfering with the process of dreaming. Based on this understanding of dreaming, one would then predict that antidepressants would be most effective in patients who are more severely depressed and less helpful in patients who are only mildly depressed. As is well known, that is exactly what we find clinically. Antidepressants are most helpful in the severely depressed and are of questionable value in the mildly depressed.

Third, the religious traditions cited above affirm the concept that dreaming can be a medium for connecting with one's most strongly held beliefs. In depression, dreams can draw from our highest ideals to help us reorient our lives so that any change we must make actualizes our truest self. In a time of emotional chaos, therefore—as when Job confronted the whirlwind—we can be guided by our deepest wisdom. As Hans Selye (1978) wrote, “Realistic people with practical aims are rarely as realistic and practical in the long run of things as the dreamers who pursue their dreams.”

Integration and Summary of the Functions of Depression

The symptom complex of depression may be generated as an executive function—a “depressed response”—intended to facilitate adaptation to certain types of adverse conditions. On the biological level, it may be triggered by scarcity of resources such as food and light. On the psychological level, object loss may trigger it. On the social level, the trigger may be conflict with dominant others, and on the spiritual level, it may reflect the need to evolve in the perception of the Divine.

Because all these levels of being are interwoven, the depressed response produces manifestations on all of them simultaneously, even if it appeared to have been triggered only on one level. Symptoms such as social withdrawal, loss of interest in food, inner preoccupation, and a profound sense of dissatisfaction are intended to create the necessary milieu for an intensive reevaluation of one's situation and one's responses to it. Dreaming is a crucial part of this process because it is a medium for high-level problem solving, learning, and inner change. If the existing power structure in the community recognizes and validates the person's inner experiences, the person may then have the opportunity to manifest their transformation socially, with the potential to resolve conflicts. Depression is thus an extraordinary bio-psycho-socio-spiritual process, attesting to the transcendent complexity and resilience of human beings.

WHEN DEPRESSION BECOMES AN ILLNESS

There is no wisdom in useless and hopeless sorrow.

—Dr. Samuel Johnson (c. 1750)

Unfortunately, the extraordinary potential of depression is not often realized in our society. On the contrary, most of the depression that physicians see in their patients can be described only as terrible suffering. The theorists who wrote about the adaptive functions of depression were aware of this. Emmy Gut, for example, recognized that if her patients did not achieve some sort of restructuring, they became chronically ill. Something had interfered with the resolution of their depressed response, she felt, so that it lost its self-limiting quality and became autonomous and self-perpetuating.

Again, we can use the analogy of the immune response to explain this. If the immune response to an infectious organism does not resolve normally, it may become a problem in its own right—an immune disorder. There are a number of immune disorders that are known to be caused by a dysregulated response to an infectious organism. For example, rheumatic fever, Reiter's syndrome, and ankylosing spondylitis are all caused by dysregulated immune responses to different bacterial infections.

In a similar way, if a depressed response escapes regulation and does not resolve normally, it becomes a problem in its own right—an MDD. This is clearly no longer an adaptive condition.

Our knowledge of the neuroendocrinology of MDD confirms that, indeed, this is how the illness develops: through a loss of regulation of a normally adaptive response.

How MDD Develops: Insights From Neuroendocrinology

Stress and depression are intimately linked, as neuroendocrinologists have shown us. In essence, when people lose control of their stress response, they develop MDD.

The hypothalamic-pituitary-adrenal axis is the central mediator of the stress response. This axis is regulated primarily by the hippocampus, which normally keeps the hypothalamus in a state of tonic inhibition. When we encounter a stressful situation, the hippocampus releases the hypothalamus from this inhibition, allowing the hypothalamus to secrete corticotrophin-releasing hormone (CRH). CRH is the master hormone of the stress response. There are receptors for it all over the brain: the neocortex, the limbic system, areas involved in the regulation of the autonomic nervous system, and all of the various nuclei involved in catecholamine systems of the brain. CRH also stimulates the posterior pituitary to release ACTH, which in turn stimulates the adrenals to produce cortisol. Cortisol acts to alter metabolism, and together with CRH and catecholamines, it produces the symptoms and signs of the stress response, including decreased appetite, restlessness, decreased libido, immune suppression, and increased REM sleep (Torpy & Chrousos, 1996; Vgontzas et al., 1997). Cortisol also acts as a negative feedback signal to the hippocampus and hypothalamus, thus regulating the stress response and giving it a self-limiting quality.

In the majority of patients with MDD, we find a pattern of prolonged hyperactivity of the hypothalamic-pituitary-adrenal axis. We find very high levels of CRH, ACTH, and cortisol. The endocrine pattern seen in MDD is quite simply an exaggeration of the pattern of the normal stress response (Leonard & Song, 1996). Correspondingly, the symptoms experienced by depressed patients are also an exaggeration of the symptoms of the stress response, with the addition of fatigue from prolongation of the process. This is also true in animals, in whom behaviors induced by stress are exactly the same as depressive behaviors; what is more, they are reversible with antidepressant treatment (Willner, 1997).

Endocrinologically, the only qualitative difference between MDD and the stress response is the loss of the feedback regulation of the system. In MDD, the hippocampus and hypothal-

amus lose sensitivity to feedback inhibition by cortisol. This may be due to both functional and structural changes in these brain regions. Recent molecular studies have found lower levels of growth factors essential for neuronal viability in these brain regions in depressed patients (Reid & Stewart, 2001). Imaging studies of patients with treatment-resistant MDD show hippocampal atrophy, and histopathological studies have found frank neuronal death—apoptosis secondary to prolonged hypercortisolemia (Lucassen et al., 2001; Shah, Ebmeier, Glabus, & Goodwin, 1998). In any case, the loss of the hippocampus's sensitivity means that it no longer acts to restrain the stress response. The stress response thus evolves into MDD (Kling et al., 1989).

These data correlate well with Gut's (1989) model of the depressed response. The stress response, as we have seen, looks biochemically and symptomatically identical to MDD, except that it is self-limiting. That is how Gut described the depressed response—identical to MDD, except self-limiting. Just as a stress response that becomes dysregulated becomes MDD, so too does a depressed response. The neuroendocrinologists are describing the same thing as Gut but in different terms.

This offers compelling evidence that MDD is a dysregulated form of an adaptive response. The question remains, however, as to why the desensitization of the hippocampus that underlies the dysregulation occurs. The cause is likely to be multifactorial. Not only is the hippocampus particularly sensitive to toxic, oxidative, hypoglycemic, ischemic, and viral-induced damage, but it atrophies in response to any stressful condition (Duman, Heninger, & Nestler, 1997). Studies in rats show that early postnatal mother-infant experiences also have lasting effects on hippocampal physiology (Kehoe, Hoffman, Austin-LaFrance, & Bronzino, 1995). Early life experiences such as these form the basis for our core beliefs about reality, and they are apparently imprinted into our hippocampus. The hippocampus is known to be a key structure in memory formation and retrieval. Thus, early life imprints probably influence all subsequent memories. The hippocampus is also a point of intersection between the neural circuitry for learning and dreaming; these are also influenced by the imprints.

Therapeutic pessimism is not warranted, however, because the hippocampus is remarkably plastic, capable of dramatically remodeling itself and even of growing new neurons (Gross, 2000; Reid & Stewart, 2001). Furthermore, it would be excessively reductionistic to suppose that the hippocampus is the only therapeutic target of significance. Opportunities for treatment exist throughout all the spheres of our existence.

The second part of this two-part series, in the next issue of this journal, will review research on complementary and conventional treatment modalities for depression. The integrative model we have presented will be shown to provide the basis for comprehensive assessment and treatment planning, guiding the application of the wide variety of available treatments.

Summary of the Integrative Etiological Model

MDD may be understood as a dysregulated form of an adaptive depressed response, with manifestations on the biological, psychological, social, and spiritual levels. The response is normally self-limiting, but interference with its resolution may occur on any or all of its levels, leading to the development of MDD. Assessment and treatment should therefore optimally address all levels of the human being.

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Women and Depression: A Phytotherapist's Approach

Aviva Romm, AHG, CPM

Depression, anxiety, and similar disorders are the most commonly encountered women's health problems in Western countries with women experiencing higher rates of depression than men. Alternative and conventional medical practitioners are consulted for the treatment of mild to moderate and even severe depression perhaps more than any other mood and affective disorder, mood disorders being the primary emotional imbalance encountered in clinical herbal practice. The medical definition of depression provides a narrow parameter against which a wide range of human sadness and grief is measured and categorized. This unfortunately may lead to the inappropriate labeling, medicating, and potential stigmatization of many who appear to fit the diagnosis of depression and the marginalization and exclusion from diagnosis of those who do not necessarily fit neatly into this category, yet who truly suffer from this malady of emotion. The causes of depression are multifactorial. A truly comprehensive holistic approach must consider physical pathologic etiologies (e. g., endocrinologic dysregulation) as well as social, emotional, and psychological factors ranging from availability of support networks to issues of self-esteem, gender issues faced by women in contemporary times, socioeconomic factors, as well as diet, nutrition, and exercise levels. This article addresses many of these multifactorial issues, providing the reader with both evidence-based and traditional information on the use of complementary and herbal therapeutic approaches to depression in women.

BACKGROUND

Depression is perhaps the most common psycho-emotional condition faced by Americans today, affecting nearly 10% of all patients seen in nonpsychiatric settings and nearly 50% of all patients seen in outpatient and private psychiatric settings (Beers & Berkow, 1999). Women experience higher rates of depression than men do, with the most common forms of depression occurring in a 2:1 female to male ratio. Depression, anxiety, and similar disorders are the most commonly encountered women's health problems in Western countries (Trickey, 2000). Alternative and conventional medical practitioners are consulted for the treatment of mild to moderate, and even severe, depression perhaps more than for any other mood or affective disorder. Mood disorders are the primary emotional imbalance

encountered in clinical herbal practice (LowDog, 1997), and psychosocial factors are now accepted as a primary cause (Trickey, 2000).

The clinical definition of major depression according to the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* (American Psychiatric Association, 1994) is the presence of five or more of the following symptoms, present for at least 2 weeks, representing a change from previous mental or functional status and including depressed mood or anhedonia:

1. depressed mood for most of the day, nearly daily, as self-described or described by others;
2. significantly decreased interest or pleasure in activities for most of the day, nearly daily;
3. feelings of guilt or self-worthlessness;
4. significant weight loss without diet, weight gain, or decrease or increase in appetite;
5. insomnia or hypersomnia nearly daily;
6. psychomotor agitation or retardation as defined by others (not just a subjective sense of lethargy or restlessness);
7. daily fatigue or low energy;
8. daily feelings of decreased ability to concentrate, indecisiveness nearly daily; and
9. recurrent thoughts of suicide.

Central to the diagnosis of major depression is that the symptoms cannot be accounted for by the effects of medications or bereavement and the symptoms cause significant social distress or impairment. The *DSM-IV* refers to milder, chronic depression, lasting 2 years or longer, as “dysthmic disorder.”

Depression is a more broadly used term in the general population, connoting a range of self-described symptoms including “feeling blue,” an inability to feel joy or happiness (anhedonia), a sense of emotional weightiness, an inability to motivate oneself to perform daily tasks and responsibilities, inability to concentrate, a feeling of lack of inspiration or creativity, a sense of withdrawal, poor self-esteem and feelings of worthlessness, and a feeling of hopelessness. Many recognize that sleep disturbances (either insomnia or hypersomnia), anxiety, stress, memory loss, changes in eating patterns, decreased immune response with greater susceptibility to colds and infection, and loss of self-esteem are symptoms of depression. Others come to the alternative practitioner seeking treatment for these related symptoms, not recognizing that they are indicative of an underlying mood disorder.

ARBITRARY PARAMETERS?

The medical definition of depression provides a narrow parameter against which a wide range of human sadness and grief is measured and categorized. Unfortunately, this may lead to the inappropriate labeling, medicating, and potential stigmatization of many who appear to fit the diagnosis of depression and the marginalization and exclusion from diagnosis of those who do not necessarily fit neatly into this category yet who truly suffer from this malady of emotion.

Medical literature further differentiates what is considered true depression from a grief reaction. A grief reaction is considered to be a temporal, self-limiting condition that occurs as a result of an immediate loss as is often associated with a trauma, for example, a miscarriage or a death in the family. In chronic depression, symptoms such as disturbances in sleeping patterns and changes in appetite, energy levels, and mood persist over time. In addition,

with a grief reaction, self-esteem is not considered to be completely damaged, whereas with chronic depression, levels of self-esteem are considered to be significantly affected. Grief that persists longer than 90 days is now considered appropriately diagnosed as depression. Grief and sadness, however, do not conform to arbitrary time frames, nor can one define for individuals how much grieving is considered “normal.” For example, for some women, a miscarriage or infertility problems may lead only to a brief period of grief response. However, for many women, the experience of miscarriage, particularly when habitual, does erode self-esteem and may lead to chronic, subclinical depression that affects many aspects of daily functioning including the ability to be around other people’s babies or to enjoy a healthy sexual relationship. Although depression can certainly be categorized by scale, the alternative therapist does not only limit the definition of depression to a label from the *DSM-IV* but also looks to the patient’s self-definition of mood and provides appropriate therapeutic protocol.

FEMINISM, HOLISM, AND WOMEN’S DEPRESSION

Despite the continued underrecognition and underdiagnosis of depression in women, a woman is more likely to be hospitalized for depression than breast cancer during the course of her lifetime (Brandis, 1998). Women between the ages of 20 and 45 are most prone to depression; the incidence of the condition declines with age, and the prevalence of depression at increasingly younger ages is on the rise (Peden, Hall, Rayens, & Beebe, 2000).

Factors that contribute to the high prevalence of depression in women include but are not limited to family and work roles; victimization; variations in personality and adaptability; reproductive- and life cycle-related events such as pregnancy, childbirth, and menopause; and early childhood parental loss (American College of Obstetricians and Gynecologists, 1993). Furthermore, stress, nutritional deficiencies, thyroid conditions, chronic pain, and treatment for such diseases as cancer can lead to or exacerbate a tendency to depression. Heredity is considered a significant predisposing factor in affective disorders. Depression is frequently a multifactorial condition, with several concurrent factors that culminate in the overall mood disturbance and a condition that is frequently observed by obstetricians and gynecologists (American College of Obstetricians and Gynecologists, 1993).

The stigmatization surrounding the use of the label *depression* has to some extent decreased with greater public awareness that depression is considered a medical condition and not a character flaw or weakness. Also, the commercialization and widespread use of antidepressant medications, as evidenced by advertisements on television and in magazines, has brought depression “out of the closet” as a prevalent health condition. Prozac is “chic.” Unfortunately, however, the definition of depression as a medical condition has led to a focus on medication as a primary treatment, often to the exclusion of improving other factors such as nutritional status, exercise levels, self-esteem, and relationships.

According to scholars in women’s studies such as Belenky, Gilligan, Rich, and others, relationship is a fundamental aspect of female biology and social experience. The social fabric of a woman’s life is central to her experience of wellness. Similarly, self-esteem and security contribute to wellness. Feminist literature provides a wealth of documentation of the struggles faced by women in this society, ranging from the prevalence of rape (a woman is raped every 9 seconds in the United States) and sexual abuse (1 in every 4 women is the victim of sexual abuse) to milder forms of discrimination and victimization. Add to this high rates of divorce and single motherhood; lower pay for the same jobs; difficulties in arranging

child care and thus increased job stress; the threat of breast cancer, osteoporosis, and heart disease as they age; the nutritional, hormonal, and social impact of normal experiences such as menstruation, childbearing (particularly obstetric intervention and surgical procedures at birth; Fisher, Astbury, & Smith, 1997), and menopause; and a society that pathologizes and devalues these powerful feminine biological forces, and we begin to see that it is not surprising that some degree of depression is nearly ubiquitous among women.

Women face conflicting roles in this culture, pressured to be productive and successful in the workforce while remaining supportive, nurturing, and accessible in the home. Women struggle tremendously with feelings of guilt and failure: A successful career woman worries that she has not been a “good enough” mother, whereas a successful homemaker worries that she has not “done enough” outside the home and struggles with feelings of personal frustration. Women who are mothers may also struggle with extended periods of isolation as they are raising children in a society that at once deifies and ignores motherhood. Women struggle with their physical self-image and health needs in a society that glorifies the thin, tall model. The healthy woman is encouraged to resort to extreme dieting to meet this unrealistic standard. As one astute writer put it, perhaps the most positive intervention for women with depression is for care providers to “take seriously the pressures on women to be everything to everyone and no one at all” (Brandis, 1998).

Furthermore, American culture marginalizes and pathologizes grief and sadness. Unlike various Native American cultures that provided ample opportunity for women to go to the “moon lodge” during their menses as a time to be away from the work of the tribe and to be with other women; or the ritual of the sweat lodge or vision quest that provide opportunity for reflection, solitude, finding core meaning in life, and “crying for a vision” (LowDog, 1997); or the Navajo (Dine) community tradition of the Monsterway and Blessingway for clearing out “bad spirits” and welcoming in “helping spirits” when a member of the tribe is experiencing a major or difficult transition, our society provides no opportunity to face and challenge “our inner demons” or our own human darkness and vulnerability. We have overlooked ritual as a powerful tool in the healing repertoire, providing us with symbolism, meaning, and tools for coping with sadness, grief, and loss (LowDog, 1997; Noble, 1992). We do not face the night or darkness of our souls as a fact of life: We suppress emotions until they become consuming in the form of chronic depression and we spend billions on antidepressant medications.

PHYSIOLOGIC BASES OF DEPRESSION

Although there are numerous psychosocial factors involved in the etiology of depression, physiologic and pathophysiologic factors should not be excluded or overlooked in the holistic treatment approach. We must find a balance between the biological and psychosocial aspects of this way of being.

In addition to the numerous social pressures faced by women, there is some evidence suggesting that women are more biologically vulnerable to depression than men are and that these biological factors may make it harder for women to rebound from a depressive episode (Beers & Berkow, 1999). Biologically predisposing factors for depression may include the fact that women have two X chromosomes, an important factor in bipolar disease if X linkages are dominant; higher levels of monoamine oxidase (MAO), the enzyme that breaks down neurotransmitters and that has a significant relationship to mood; greater predisposition to thyroid disorders; use of oral contraceptives; and endocrine changes associated with

menstruation and menopause (Beers & Berkow, 1999). Unfortunately, however, “the pathophysiology of depression is not well understood” (LowDog, 1997). It is clear from a review of the medical literature that both nutrition and exercise can play a significant role in the development and treatment of depression (Alpert & Fava, 1997; Benton & Donohoe, 1999; Brown, Shirley-Goldstein, Robinson, & Casey, 2001; Cramer, Nieman, & Lee, 1991; Fox, 1999; Kanarek, 1997; Kelly, 1998; Lombard, 2000; Pronk, Crouse, & Rohaack, 1995; Rogers, 2001).

A considerable amount of research has gone into investigating the role and relationship of neurotransmitters and enzymes involved in neurotransmitter function to depression. The monoamine theory suggests that there is a deficiency of the neurotransmitters norepinephrine, serotonin, and dopamine, with substantial emphasis placed on the role of serotonin (LowDog, 1997) and hence the popularity of selective serotonin reuptake inhibiting medications such as Prozac and Zoloft for treating depression. Serotonin is involved in the regulation of mood, appetite, mental function, sleep, and sexual response. Thyroid malfunction and dysregulation of the hypothalamic-adrenal-pituitary axis is another possible factor in the etiology of depression, seen in more than 50% of people with depressive disorders.

Most women recognize when they are experiencing hormonally related mood changes, most noticeably anger and irritability or depression. Women are most likely to be affected during the premenstrual and perimenopausal periods. Several explanations for hormonally related depression exist. According to Trickey (2000), in addition to the biochemical theories already mentioned, which may also be hormonally induced, there are several additional theories of the hormonal etiology of depression. The theory of estrogen/progesterone ratio imbalance postulates that low estrogen levels in relationship to progesterone leads to dysphoria due to the inhibition of androgens in the brain. Another theory suggests that there may be a decreased response of progesterone receptors in spite of normal progesterone levels due to their being blocked by elevated adrenal hormone production as a result of stress. This last theory is consistent with the pituitary axis theory and hypersecretion of cortisol. Substantial recent research supports the theory that variability in estrogen and progesterone levels has an effect on neurotransmitters and thus mood, particularly during menopause when estrogen levels naturally decline. Furthermore, “stress associated with mood changes can impact on adrenal function and may cause estrogen levels to drop further and aggravate menopausal symptoms” (Trickey, 2001). Estrogen supplementation via hormone replacement therapy (HRT) has led to the improvement of mood and psychological functioning (Boyle & Murrihy, 2001), although it is not without controversy regarding potential health consequences of prolonged HRT use.

Sleep disturbances can have a profound influence on the development of depression, and conversely, depression can dramatically interfere with sleep, thus leading to a vicious cycle. In addition, lack of sleep can aggravate physical discomfort such as chronic pain or increase perceptions of stress, further exacerbating depression.

THERAPEUTIC APPROACHES FOR WOMEN WITH DEPRESSION

Because depression is a multifactorial problem, the treatment of depression must represent not just a pharmacologic approach but also a comprehensive response to the many factors that contribute to the problem. According to LowDog (1997), “Depression is probably a complex interplay of genetics, biochemistry, and both developmental and social factors.”

Trickey (2000) suggested the biopsychosocial model for addressing depression from a holistic perspective. This model, as the name suggests, “includes additional societal influences as a holistic attempt to include the complex and interwoven features that may contribute to dysphoria.”

The biopsychosocial model is consistent with the holistic philosophy practiced by most Western herbalists. Herbalists have long recognized that humans are multifaceted and that human physiology is a complex result of physical forces acting not in a physiologic vacuum but in an intricate dance that includes human emotion and thought. Thus, our physiology reflects not only independent biological processes but also the landscape that is the human experience. Thus, although the treatment options presented below focus on botanical therapies, they are meant to be a part of a comprehensive and holistic paradigm including appropriate lifestyle changes, increased social support, exercise, and activities that increase a sense of meaning in the patient’s life. In fact, the phytotherapist does not limit treatment to the prescription of herbs but approaches health problems from a multimodality perspective.

In contrast with conventional medicine, an essential aspect of herbalism and indeed many holistic therapies and an aspect that is specifically integral to the client with depression is the goal of helping the client find self-empowerment. This involves helping the client not only by providing substances that might improve well-being but also by fostering self-esteem. According to Skiba-King (2001), “Consumers who elect to use natural products are electing to do more than simply use a product. Their choice is an act of self-empowerment.” Skiba-King reminded us, as have Fugh-Berman (2000) and others, that botanical therapies are largely unregulated and little is known about the potential for herb-drug interactions, whereas Tinsley (1999) cautioned that psychotropic herbs, which are among the most popular on the market, have the potential for being overused or abused and have the potential for side effects. Therefore, education is necessary and “consultation with a health care practitioner who shares this shift in perspective and who follows the literature is important” (Skiba-King, 2001).

Botanical Therapies for Depression

There is a considerable *materia medica* of herbs that have traditionally been used by herbalists for the treatment of depression and related conditions such as anxiety, chronic pain, insomnia, and cognitive dysfunction. Although only a few of these herbs have been subjected to clinical trials, those that have, such as St. John’s Wort (*Hypericum perforatum*), ginkgo (*Ginkgo biloba*), and kava (*Piper methysticum*), have compared favorably to or better than placebos and standard medical treatments or have yielded improvements in the condition being studied. Although herbalists recognize the value of clinical trials to verify efficacy and demonstrate safety of botanical therapies, herbalists also do not discount historical and folk use of herbs when clinical trials are lacking or fail to prove efficacy.

Following is a brief summary of the primary botanicals used by herbalists for treating women’s depression, with an emphasis on those botanicals for which there is evidence-based research.

St John’s Wort (*Hypericum perforatum*)

The most popular antidepressant herb on the market, St John’s Wort, has a long history of use for depression, dating to the Middle Ages when it was used as protection from “evil spir-

its” that were believed to cause abnormal mental states (Trickey, 2001). The name *Hypericum* stems from the Greek word meaning “over an apparition,” based on the belief that it caused evil spirits to flee (Linde & Muldrow, 2000; LowDog, 1997; Trickey, 2001). It is currently recommended for the treatment of mild to moderate depression. This herb has some history of use for the treatment of depression in menopausal women, and it may be combined with other herbs such as *Vitex agnus castus* or *Actaea racemosa* (syn. *Cimicifuga racemosa*) for this purpose (Mills & Bone, 2000; Trickey, 2001).

There is a vast amount of literature demonstrating the relative safety and efficacy of *Hypericum* as a treatment for depression, yet the exact mechanisms of action are unknown, though there has been investigation into what are believed to be the active principles hypericin and hyperforin and into the herb’s possible actions as an MAO inhibitor and its ability to act on serotonergic pathways (Bone & Mills, 2001; Boniel & Dannon, 2001; Fugh-Berman & Cott, 1999; Gaster & Holroyd, 2000; LowDog, 1997; Trickey, 2001; Upton, 1997; Werbach & Murray, 1994; Wong, Smith, & Boon, 1998). Many of these authors cite studies indicating that St John’s Wort has been shown to be better than placebo and at least equal to standard prescription antidepressant medications.

Although few side effects are seen with use of St. John’s Wort, it has been shown to cause transient photosensitivity in fair-skinned people (Fugh-Berman & Cott, 1999). This condition disappears within a few days of discontinuation of the product and is generally, though not always, associated with higher than recommended dosages (Fugh-Berman & Cott, 1999). More recently, St. John’s Wort has been found to affect the expression of cytochrome P450 (CYP450) and thus lead to interactions with a number of pharmaceutical drugs, most notably cyclosporine (Treasure, 2000). All patient medications should be audited for possible herb-drug interactions before St. John’s Wort is prescribed. St. John’s Wort should be avoided by those taking medications with a narrow therapeutic index such as anticoagulants, immunosuppressants, and antiarrhythmics (Treasure, 2000). Patients already using prescription antidepressants should also avoid concurrent use of *Hypericum* (Cupp, 1999; Treasure, 2000).

Standard dose is 2 to 5 g dried herb per day, two to three tablets at 1.5 g standardized to contain 0.9 mg total hypericin, or 7.5 to 15 ml of 1:5 tincture daily (Mills & Bone, 2000).

Ginkgo (*Ginkgo biloba*)

Ginkgo does not directly act as an antidepressant herb, but through its action of improving cognitive function and enhancing memory and increasing cerebral blood flow and tissue oxygenation, it may enhance psychoemotional well-being (Boniel & Dannon, 2001; Curtis-Prior, Vere, & Fray, 1999; Mills & Bone, 2000; Werbach & Murray, 1994). In addition, memory loss in perimenopausal women can itself lead to anxiety and depression, and relieving this symptom may thus improve outlook.

Although ginkgo has been associated with few side effects, it has been associated with spontaneous bleeding, both in conjunction with anticoagulant herbs and independently. Therefore, ginkgo should not be used with other anticoagulant therapies, including aspirin, and its use should be discontinued several weeks before any anticipated surgical procedures (Cupp, 1999; Fugh-Berman, 2000; Mills & Bone, 2000).

Standard daily dose is 120 mg of a standardized 50:1 ginkgo extract, corresponding to approximately 4 to 8 g of leaf. This can be taken as a liquid extract or tablet (Mills & Bone, 2000).

Ginseng (*Panax ginseng*)

Ginseng is a highly valued medicinal plant consumed worldwide for its tonic effects. According to Mills and Bone (2000), ginseng “increases vitality and the ability to withstand stress by acting on the hypothalamus-pituitary-adrenal cortex axis; [and] restores and strengthens the body’s immune response.” It is specifically used to improve learning and memory and to relieve anxiety, debility, and sexual inadequacy (Bone, 2000; Mills & Bone, 2000). Furthermore, ginseng improves exercise stamina, enhances mood, and improves hemoglobin uptake in humans (Bone, 2000). Given these indications, it is reasonable that herbalists regularly use ginseng in the treatment of depression, mainly to treat underlying causes and symptoms such as fatigue, susceptibility to infection, sexual dysfunction, and cognitive impairment.

Although ginseng has a long historical record of safe use, it has recently been shown to decrease the effectiveness of warfarin (Cupp, 1999), and according to Fugh-Berman (2000), it has led to incidence of mania in depressed patients who have combined it with antidepressant medications. Therefore, care should be taken when administering this herb with other medications.

The standard dose of ginseng in traditional Chinese medicine is 1 to 10 g decocted, dried root daily. Western herbalists generally recommend approximately 3 g of dried root or 1 to 6 ml of 1:2 liquid extract daily (Mills & Bone, 2000). It is traditionally used in formulae and frequently combined with licorice root (radix *Glycyrrhiza spp.*). Ginseng is generally prescribed for long-term use, 3 to 6 months, before optimal results are seen. Excessive use of ginseng may lead to overstimulation.

Eleuthero (*Eleutherococcus senticosus*)

Also known as Siberian ginseng because of its similar tonic effects, eleuthero has a significant role to play in the treatment of mild depression and related symptoms including fatigue, susceptibility to stress, decreased immunity, insomnia, and irritability (Mills & Bone, 2000). This author can find no adverse effects reported in the literature. Standard dose is 1 to 4 g daily or 2 to 8 ml daily of 1:2 liquid extract.

Kava (*Piper methysticum*)

Kava shows significant ability to reduce anxiety and to promote deep relaxation and sleep (Boerner, 2001; Cauffield & Forbes, 1999; Mills & Bone, 2000; Trickey, 2001; Wheatley, 2001). Although not directly used for the treatment of depression, kava can reduce stress and chronic pain, thus having an indirect but definite ability to impact depression due to these causes. Kava was shown in one study to be of specific use in the reduction of menopausal anxiety and to “accelerate the resolution of psychological symptoms” when combined with hormonal therapy (DeLeo et al., 2001). Mechanisms of the psychotropic action are directly related to kava pyrones. It is speculated that they have the ability to block the uptake of noradrenaline. The sedative action may be related to an ability of kava pyrones to increase the number of GABA binding sites (Trickey, 2001).

The official policy of the industry is that further investigation is needed to assess the true potential toxicity of kava kava. Practitioners must make a relative benefit-risk assessment regarding the prescribing or dispensing of kava kava and are further advised to pay close attention to liver-

specific signs that may arise, and to inform their patients of the same. (R. Upton, personal communication, 2001)

Kava should not be combined with other medications until further evidence is available. Some individuals describe the experience of using kava as “unpleasant” or “numbing”; therefore, it may be advisable to give a small trial dose to identify such individuals.

Standard dose of kava among herbalists is 2 to 5 ml two to three times per day of 1:3 and up to 10 ml of 1:3 tincture for acute anxiety for less than 2 days at a time. Recommended capsule dose is 1 to 2 capsules of 250 to 480 mg kava, not to exceed 400 mg kavalactones daily (Romm & Treasure, 2001).

Valerian (*Valeriana officinalis*)

Well known for its ability to promote sleep and reduce stress, valerian has a long history of safety associated with its use. Relief of stress and insomnia can play a pivotal role in the improvement of depressive symptoms. Few clinical trials appear in the research literature, but according to Fugh-Berman and Cott (1999), valerian appears to be “quite safe” in humans. The greatest complaint most patients will give is regarding its unusual smell, which for some makes use of the plant intolerable. Some individuals will experience a paradoxical effect of stimulation, making it an inappropriate remedy for those with this response using it to treat insomnia; others may experience drowsiness and should avoid driving while using this herb. This author knows of no other known contraindications to use.

Standard dose of valerian is 3 to 9 g of dried root daily or 2 to 6 ml of 1:2 liquid extract or 5 to 15 ml 1:5 tincture per day (Mills & Bone, 2000).

Licorice (*Glycyrrhiza glabra*)

Due to its effects on steroid metabolism and adrenal function, it is postulated that licorice may have adaptogenic effects that make it useful in the treatment of depression (Mills & Bone, 2000). It has certainly demonstrated immunomodulatory capabilities (Mills & Bone, 2000) and may thus be used as a conjunctive herb along with others when there is chronic stress and weak immunity associated with depression. It is contraindicated for those with liver disorders, hypertension, hypokalemia, edema, congestive heart failure, kidney insufficiency, and pregnancy (Blumenthal, 1998). Deglycyrrhizinated licorice, devoid of the compound glycyrrhizin, associated with mimicking aldosterone and thus associated with the above contraindications, may be used safely with supervision by patients with contraindications to the use of this whole plant.

Standard dose is 2 to 6 ml daily of 1:1 liquid extract (Mills & Bone, 2000).

Vitex (*Vitex agnus castus*)

Vitex, or chaste tree, has gained popularity in recent years for its use in regulating the menstrual cycle. It has been shown to have a dopaminergic effect, which leads to a net reduction of the hormone prolactin, a hormone that when elevated has been associated with premenstrual mood fluctuations (Mills & Bone, 2000; Trickey, 2001). It is also thought to improve relative progesterone deficiency via enhancement of corpus luteal development (Mills & Bone, 2000). However, the exact mechanisms of action of vitex are still unknown. Many women experience noticeable benefit in the reduction of both premenstrual and

perimenopausal stress and depression with its use; however, several herbalists have noted an exacerbation of symptoms, but only rarely. It has been speculated that this exacerbation may occur in women who are already estrogen deficient, and for progesterone dominants, adding vitex aggravates this imbalance. It is considered safe for long-term use; however, it should be used cautiously in adolescents due to potential effects on sex hormones.

Standard daily dose is 1 to 5 ml of a 1:5 tincture, three times daily (Romm & Treasure, 2001).

Cimicifuga (*Actaea racemosa* syn *Cimicifuga racemosa*)

Black cohosh has received attention for its treatment of perimenopausal symptoms, most notably due to its phytoestrogenic effects. These phytoestrogens, acting weakly to bind with endogenous estrogen receptors, potentially enhance estrogen levels in women who are estrogen deficient and reduce excess endogenous estrogen levels by preferentially binding with these receptor sites. Thus, black cohosh may be thought of as having a normalizing effect on estrogen levels. Furthermore, it is an excellent antispasmodic, facilitating reduction of tension and elevated blood pressure and promoting relaxation and sleep. Combined with its ability to reduce hot flashes and uterine spasms and to serve as a general uterotonic, black cohosh is an excellent addition to formulae for women with menstrual or perimenopausal complaints and depression.

Side effects are not expected when used at recommended doses. Caution should be exercised during pregnancy, and only short-term use may be advisable for adolescent girls.

Standard dose is of 0.5 to 1 g dried root/rhizome three to four times a day or 3.7 to 7 ml 1:5 tincture daily (Mills & Bone, 2000).

Ashwagandha (*Withania somnifera*)

Much like ginseng, eleuthero, and licorice, ashwagandha has adaptogenic effects, supporting the adrenal axis and, with long-term use, reducing the effects of stress. Reducing the stress response can lead to a physiologic reduction of stress hormones that are indicated in depression. It is also a nerve tonic, gentle and mild sedative, and immune tonic. It improves health and stamina when there is debility and nervous exhaustion due to stress. It may be used safely for elderly and pregnant patients and may be useful in the prevention and treatment of cancer (Bone, 2000).

Tang gui (*Angelica sinensis*) and Peony (*Paeonia lactiflora*)

In traditional Chinese medicine, a primary causative factor of depression is considered to be blood deficiency, also symptomized by pallor, fatigue, and weakness. Blood deficiency is exacerbated by the regular monthly loss of blood through menses as well as by childbirth. Formulae for the treatment of deficient blood frequently contain the herbs tang gui (dong quai) and peony. Their actions, in addition to enhancing red blood cell production (Bone, 2000), may be partly estrogenic (Trickey, 2000), although Bone (2000) countered that it may not have any estrogen-like effects on the uterus. Both tang gui and peony have shown demonstrable effects in the treatment of dysmenorrhea, and both are antianemic female tonics. Tang gui is contraindicated where there is tendency to uterine bleeding and should not be used without expert supervision during pregnancy. Peony is a good general antispasmodic and

muscle relaxant, may mildly enhance cognitive function, and has immune-enhancing qualities. These herbs are often combined with *Rehmannia glutinosa*, *Ligusticum*, and *Glycyrrhiza glabra*.

Additional Herbs

Herbalists widely use the following plants for the treatment of depression and related symptoms: lemon balm (*Melissa officinalis*) for anxiety, insomnia, and depression; motherwort (*Leonorus cardiaca*) for depression and irritability; and blue vervain (*Verbena officinalis*) also for depression and irritability. Motherwort and blue vervain are specifically used for the treatment of hormonally induced mood changes such as accompanying premenstrual tension and perimenopausal changes. Passionflower (*Passiflora incarnata*) is relied on for its ability to reduce insomnia and promote restful sleep. Side effects are not associated with these herbs; however, motherwort is contraindicated during pregnancy, and lemon balm in tincture form may exacerbate hypothyroidism. Lemon balm may, however, be beneficially used to treat anxiety associated with hyperthyroidism (LowDog, 1997). Bacopa (*Bacopa moniera*) has been shown to enhance cognitive functioning and the learning of new tasks while improving memory. It may be used when there is depression with diminished cognitive functioning as is common among perimenopausal women. Gotu kola (*Centella asiatica*), known in Ayurvedic medicine as the king of tonics for the mind, may be used similarly and in combination with other therapies for enhancing cerebral function. Rosemary herb (*Rosmarinus officinalis*), which is slightly stimulating to the nervous system, has long been used in folk herbalism to enhance mood and memory, the old saying being that “rosemary is for remembrance.”

Nutrition

The connection between poor nutritional status or single nutritional deficiency and depression is well reported in the medical literature. The herbalist or other alternative practitioner should place an emphasis on supporting excellent nutrition and eating habits as the cornerstone of therapy. Eating well not only provides the foundation for a healthy physiological state but also reinforces positive action for the patient, thus fostering self-esteem through self-care.

Iron deficiency anemia, particularly prevalent in menstruating women and during the years in which depression is most common, is strongly linked with depression, apathy, and rapid fatigue during exercise (Benton & Donohoe, 1999). Iron deficiency is readily corrected with nutritional supplementation. Folate deficiency has also been highly correlated with depression, with as many as one third of all patients with severe depression demonstrating this deficiency (Alpert & Fava, 1997; Bottiglieri et al., 2000; Kelly, 1998). Although it is sometimes hard to determine whether folate deficiency is a cause of depression or secondary to a poor diet due to depression, folate supplementation does enhance recovery of a positive mental state (Bottiglieri et al., 2000; Young & Ghadirian, 1989). The correlation between folate deficiency and depression appears to be a link between folate and the synthesis of methionine from homocysteine. Methionine is the precursor of S-adenosylmethionine (SAME), a substance critical to innumerable reactions in the brain. A formidable body of research indicates that supplementation with SAME can have a dramatic impact on the reduction of depression (Bell, Potkin, Carreon, & Plon, 1994; Benelli, Filaferro, Bertolini, &

Genedani, 1999; Fava, Gianelli, Rapisarda, Patralia, & Guaraldi, 1995; Morelli & Zoorob, 2000; Rosenbaum et al., 1990), and it appears that this naturally occurring brain metabolite has few known side effects, although it is costly.

Vitamin B12 deficiency (Bottiglieri, 1996) is also considered to play a role in depression, and the B-complex vitamins in general are associated with healthy functioning of the nervous system. Therefore, a careful dietary evaluation for B vitamins and appropriate supplementation is advisable for clients suffering from depression. Omega 3 polyunsaturated fatty acids including ALA, EPA, and DHA “may play a significant role in mental well-being” (Barre, 2001; Lombard, 2000; Severus & Ahrens, 2000). Regular inclusion of foods rich in omega 3 and supplementation with fish oil and evening primrose oil may have a dramatic impact on improving symptoms of depression.

In addition to specific nutrients, general dietary habits can contribute to psychoemotional wellness or dysfunction. Research indicates that regular meals; starting the day with a high-protein, nutrient-dense breakfast; and consuming an afternoon snack can all have a beneficial impact on mood, cognitive function, and the prevention of depression, particularly in women (Kanarek, 1997; Lombard, 2000; Young, 1993). It must be remembered that poor diet is often secondary to depression (Rogers, 2001); clients suffering from depression are therefore likely to need specific dietary counseling and encouragement.

Exercise

Numerous studies point to the benefit of light regular exercise in the treatment of depression (Cramer et al., 1991; Fox, 1999; Pronk et al., 1995). Aerobic exercise in the form of walking or dance can dramatically improve outlook and sense of well-being while enhancing self-esteem, improving sleep, and providing opportunity for enhanced cardiovascular function. Furthermore, dance can be expressive, and walking out of doors in a beautiful and peaceful setting is therapeutic as well. Overcoming inertia can be difficult for the woman suffering from depression, so joining classes or support networks may be necessary to help the client push beyond psychological and emotional resistance.

CONCLUSION

Because depression is a multidimensional process in women (Maynard, 1993), depressed women must deal with multiple layers of problems and comprehensive approaches to treatment. This may include learning new coping skills for dealing with stress and depression, making dramatic changes in work, relationships, and lifestyle, learning to incorporate nutrition and exercise into their daily way of life, and finding ways to increase their sense of meaning, self-worth, and self-esteem. This is no small order for those who are already, by definition of their condition, feeling apathetic and unable to motivate themselves to change. It is therefore essential for these women to be involved in supportive counseling and peer group situations. Although botanical and nutritional therapies cannot by themselves change the context of a woman’s life, they can address some of the underlying physical factors that cause depression and reduce symptoms of depression long enough for the body to begin its own healing. Promoting sleep, enhancing energy and immunity, rectifying hormonal imbalances, and reducing chronic pain are examples. The herbalist or alternative practitioner can also serve as a resource, directing the client to other supportive therapists and counselors. A strong framework of support can provide the foundation from which these women can build

new structures and healthier landscapes in their lives, allowing them to learn from their depression, make changes, and move on to a more positive experience of living.

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Acupuncture Treatment for Depression During Pregnancy: Conceptual Framework and Two Case Reports

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Severe depression is common during pregnancy. It is associated with more negative pregnancy outcome and is a risk factor for postpartum depression. Treatment options available for depressed women during pregnancy are limited. Preliminary data suggest acupuncture as an effective treatment for depression. This article presents a systematic and standardized approach to acupuncture treatment, and its implementation is demonstrated using two case reports selected from a larger pool of participants in an ongoing study testing the efficacy of acupuncture in treating depression during pregnancy. Baseline characteristics and outcome are presented from the integrated perspective of Western psychiatry and Chinese medicine.

Major depression is common during pregnancy. It is estimated that 3.5% to 11% of pregnant women meet the criteria for a major depressive disorder (Gotlib, Whiffen, Mount, Milne, & Cordy, 1989; Gotlib, Whiffen, Wallace, & Mount, 1991; Holcomb, Stone, Lustman, Gavard, & Mostello, 1996; O'Hara, Neunaber, & Zekoski, 1984; Pajulo, Savonlahti, Sourander, Helenius, & Piha, 2001; Watson, Elliott, Rugg, & Brough, 1984). There is evidence that the prevalence of depression during pregnancy is just as high as it is during the postpartum period (Evans, Heron, Francomb, Oke, & Golding, 2000; Hayes, Muller, & Bradley, 2001; Josefsson, Berg, Nordin, & Sydsjo, 2001). Psychological distress and elevated depression scores are associated with more negative pregnancy outcome, including preterm labor (Hedegaard, Henriksen, Sabroe, & Secher, 1993), low birth weight (Steer, Scholl, Hediger, & Fischer, 1992), excessive crying (Zuckerman, Bauchner, Parker, & Cabral, 1990), poor maternal-fetal attachment (Lindgren, 2001), and delivery complications (Chung, Lau, Yip, Chiu, & Lee, 2001). In addition, a substantial proportion of women who are depressed during pregnancy continue to be depressed during the postpartum period (Gotlib et al., 1989), thus affecting not only the mother but also the infant during a formative period of life.

The treatment options available for depressed women during pregnancy are frequently limited. Depressed pregnant women are often reluctant to take antidepressant medications, and the treatment of these women is largely empirical with few definitive data and no controlled studies to guide the clinician. Clinical guidelines for the pharmacological treatment of depression during pregnancy recommend carefully weighing the risks to the woman and the fetus associated with no treatment relative to the risks of treatment (American Psychiatric Association, 1993; Coverdale, Chervenak, McCullough, & Bayer, 1996; Robert, 1996). Although psychotherapy is a safe treatment option during pregnancy, it is not readily available in the HMO-dominant market and may not be acceptable to all pregnant women. Consequently, depressive symptoms during pregnancy often remain untreated.

Acupuncture, a branch of Chinese medicine, is a potential alternative to the two standard treatments for depression during pregnancy. Chinese medicine provides a framework for understanding distinct symptom pictures and developing a treatment approach based on the nature of each individual's particular symptom pattern. Furthermore, it offers a physiological framework that clearly links somatic and psychological symptoms of depression, thus integrating the treatment of the soma and the psyche (Seem, 1987). Acupuncture treatments address the entire clinical picture. The question that Chinese medicine poses, then, is not only whether someone is depressed but also how she is experiencing depression and what precipitating factors—physical, psychological, and social—have contributed to her condition.

This article describes a systematic approach to the delivery of acupuncture and demonstrates the implementation of this approach in the treatment of two pregnant women who met criteria for major depressive disorder as defined in the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.) (American Psychiatric Association, 1994) as determined by the Structured Clinical Interview for *DSM-IV* (SCID-P) (First, Spitzer, Gibbon, & Williams, 1994). These two cases, one early and the other late in pregnancy, were selected from a larger pool of participants in an ongoing study testing the efficacy of acupuncture in the treatment of depression during pregnancy. This article begins with a description of the standardized approach to treatment used in the study. It proceeds to describe some design features of the study that affect the delivery of treatment and to present two cases. The article concludes with a discussion of the cases and their selection, the relevance of integrating Western and Chinese assessment and outcome measures, the feasibility of providing standardized yet individually tailored acupuncture treatment for depression, and future directions.

THE FRAMEWORK

An Overview of Chinese Medicine Principles

The aim of this article is to present the reader with an integrated Chinese medicine and Western psychiatry view of depression during pregnancy. It is beyond the scope of this article to provide a comprehensive introduction to Chinese medicine. To maintain the conceptual integrity and to convey the logical process by which information is gathered, interpreted, and used in Chinese medicine to arrive at a diagnosis, it is important that the technical language be preserved. Technical Chinese medicine terms have been italicized to emphasize that these terms have specific meanings in Chinese medicine different from the familiar—and often different from modern biomedical—use of similar terms.¹ The reader is encouraged to consult the reference section for further reading and clarification of the italicized terms.

Chinese medicine does not focus on the diagnosis and treatment of disease but rather on the detection of imbalances of *qi* (pronounced “chee”). Therefore, strictly speaking, depression does not exist as a disease category in Chinese medicine.

Chinese medicine is based on the premise that all life occurs within a unified system, that all phenomena are manifestations of a universal stratum from which everything evolved, known as *qi* (Birch & Felt, 1999), and that all manifestations of life are connected and mutually dependent on each other. *Qi* represents the capacity of life to maintain and transform itself (Kaptchuk, 2000). *Qi* is not a fixed, measurable entity; rather, it is a concept that provides a way to describe “qualities and relationships that, although common to many things, are not obvious to the naked eye” (Birch & Felt, 1999, p. 89).

Similarly, *yin* and *yang* are concepts representing two complementary forces whose interaction maintains the dynamic equilibrium of *qi* (Beinfeld & Korngold, 1991). Health—both physical and mental—is defined as the balance between *yin* and *yang* (Beinfeld & Korngold, 1991). *Yin*, which is nourishing, grants the qualities of rest, tranquility, and quiescence as well as the capacity to gracefully unfold while being content, quiet, and mentally and physically present. When *yin* is insufficient, the individual lacks the qualities of receptivity and contemplation and becomes easily agitated, unsettled, or nervously uneasy (Kaptchuk, 2000). *Yang*, which is activating, causes transformation and change, providing the capacity to engage, react, and respond. When *yang* is lacking, the individual is often paralyzed in fear, confused, indecisive, unable to express needs, and feeling hopeless (Kaptchuk, 2000).

The balance between *yin* and *yang* depends on the capacity of an organism to adapt to change and to maintain equilibrium (Beinfeld & Korngold, 1991). Sickness is the result of *vacuity* (deficiency, hypofunction of any physiological process and decreased resistance to stress or infection) or the result of *repletion* (excess, hyperfunction, or obstruction of *qi* of any physiological process and increased reactivity to stress or infection). Both *vacuity* and *repletion* represent disharmonies between *yin* and *yang* (Beinfeld & Korngold, 1991).

The proper circulation of *qi* along *channels* or *qi* pathways sustains the homeostasis of the organism (the balance between *yin* and *yang*). The channels form a network that connects the surface of the body with the internal organs (*viscera and bowels*), serving as a two-way communication system that conveys messages to the surface about internal malfunctioning and alerts the internal organs about surface phenomena that might be threatening to move deeper into the system (Seem, 1987). The *channels* are the surface manifestations of the *viscera and bowels* and act as an irrigation system that regulates the supply of *qi* and prevents accumulations of “noxious” *qi* (Hammer, 1990). The *organs* in Chinese medicine are defined by their functions and interrelations rather than by their somatic structures or specific anatomical location; they are more accurately described as spheres of influence or networks and are commonly referred to as *viscera and bowels* (Wiseman & Feng, 1998), *organ functions* (Seem, 1987), or *organ networks* (Beinfeld & Korngold, 1991).

Channels and *organ networks* work in pairs, with one *yin* and one *yang* function interconnected: *lung/large intestine, stomach/spleen, heart/small intestine, kidney/bladder, pericardium/triple heater, liver/gall bladder, yin and yang*.² The experience of a disorder, the nature of its symptoms, and the protocol for its treatment are determined by the specific tendencies in every person toward either relative *vacuity* (deficiency/hypoactivity) or *repletion* (excess/hyperactivity) of either *yin* or *yang*. These tendencies, then, precipitate personal patterns of reaction.

Assessment and Treatment

An acupuncturist that uses the eight-principle pattern differentiation model to assess a depressed individual gathers information through a process of examination that involves observation, palpation, listening/smelling, and questioning. The information sought is sensory and qualitative (Birch & Felt, 1999) rather than quantitative. Observation of the tongue and palpation of the pulse at different positions are two very important assessing skills used by the acupuncturist and are central to the evaluation of each patient.³ Technical Chinese medical terminology is used to describe the pulse and the tongue (Flaws, 1995; Maciocia, 1987).

The symptoms and signs are then woven into a *pattern*, a description of the patient's imbalance. Each sign and symptom has a contextual rather than a categorical clinical application; the significance and meaning of a particular symptom (e.g., fatigue) change depending on the context. For example, fatigue, when present with a weak pulse, a pale and enlarged tongue, and lack of appetite, has a different significance than when it is present with a wiry pulse, a tongue that is red on the sides and the tip, and abdominal distension. After identifying the *pattern(s)*, the acupuncturist determines a set of treatment principles to address the nature of the person's imbalance and selects a set of acupuncture points and techniques. In addition to correcting the presenting symptoms, the practitioner seeks to reestablish the functioning of the whole person "in the broader context of his or her life" (Brenner, 2002).

Depression in Chinese Medicine

When evaluating a depressed patient, the acupuncturist assesses the overall relationship between *yin* and *yang* by determining which *viscera* and *bowels* (organs) are affected and in turn whether the *yin* or *yang* function of each of these organ networks is more involved. For example, if a woman with depression experiences psychological symptoms that include anger, irritability, and frustration and physical symptoms that include headaches, digestive disturbance, and insomnia, the combined symptoms would collectively point to an imbalance in the *liver organ network*. Every organ in Chinese medicine has a specific function that contributes to the maintenance of the physical and psychological health of the individual. Together, the organs represent a complete set of functions that reflect *qi* relationships among physiological and psychological events (see Table 1). The following is a description of *yin organ functions* (*viscera*) that are most relevant to depression.

Kidney. The kidney functional unit is said to store the *jing*, or essence (most fundamental material used by the body, considered the source of life), and like other networks, it can have *yin* and *yang* features. The *kidney* has a very special relationship with the other *viscera* and *bowels* in that it holds the foundation for their *yin* and *yang* qualities (Kaptchuk, 2000). Usually, it is possible to detect in every person a relative *vacuity* of either the *yin* or *yang* roots of the *kidney*, which affects the relative *vacuity* or *repletion* (hypofunction or hyperfunction) of the associated *yin* or *yang organ networks* (Seem, 1987). These tendencies, which can be both trait and state (i.e., constitutional and circumstantial), influence the manner in which an individual responds to the environment and to the stressors therein.

Liver. Because all emotions are considered to be expressions of *qi*, any emotion that finds no release through verbal expression or through physical activity becomes stagnant and nox-

TABLE 1. Viscera and Bowels (Organ Functions) and Their Correspondences

Viscera		Bowel		
Yin Organ	Function	Yang Organ	Emotion	Tissue
Kidney	Stores essence; source of <i>yin</i> and <i>yang</i>	Bladder	Fear	Bones
Liver	Regulates smooth flow of <i>qi</i> ; prevents stagnation; regulates emotions	Gall bladder	Anger, frustration	Sinews
Heart	Stores <i>shen</i> (mind or spirit); seat of consciousness and mental functions	Small intestine	Joy	Blood vessels
Spleen	Transformation of food into <i>qi</i> and blood; transportation and movement of body fluids	Stomach	Worry/pensiveness	Flesh
Lung	Moves and circulates <i>qi</i> through body; protects body against external pathogens	Large intestine	Grief/sadness	Skin/body hair

Note. Adapted from Schnyer and Flaws (1998).

ious energy that is not “circulating properly” (Hammer, 1990). The *liver* regulates the smooth and unobstructed flow of *qi*; it prevents *stagnation* by maintaining the uninhibited movement of the *qi* and its free movement through the body. Some degree of *qi stagnation* is a significant feature in most cases of depression. *Stagnation of qi* creates *repletion* (excess) somewhere in the system.

Heart. The *heart* stores the *shen* (mind or spirit), the organizing force of the self—the emotional, mental, and expressive life of the individual (Beinfeld & Korngold, 1991). The *heart* is said to be the seat of consciousness and mental functions, and therefore mental illness and emotional disorders commonly manifest as imbalances in the *heart organ network*. A person’s response to the environment is determined by the health of the *shen* or “mind.” The inability to experience and express joy and fulfillment and the confusion and agitation that are experienced during a major depressive episode are conceptualized in Chinese medicine as manifestations of the heart’s lost ability to enfold the *shen*. The *heart* may lose its ability to house the *shen* due to either *vacuity* or *repletion* of *yin* or *yang*.

Spleen. The *spleen* plays a very important role in the creation of *qi* and *blood* because it governs the movement and transformation of food and fluid and the distribution of its essence (nutrients). On one hand, if the *spleen* is malfunctioning, it may be unable to generate enough blood and *qi* to nurture the organism; this would imply *vacuity* of *qi* and *blood*. On the other hand, it may become incapable of moving and transforming body fluids, thus allowing *dampness* to accumulate and form *phlegm*; an accumulation of *dampness* or *phlegm* implies *repletion* (excess) of *yin*. Chinese medicine implicates *phlegm* as a cause of disease anywhere in the body; mentally, it manifests as brooding, rumination, confusion, or dullness of thought.

Lung. The *lung* moves and circulates *qi* throughout the body, protects the body from invasion by *external pathogens*, and assists the metabolism of body fluids. It is often affected by emotional problems, especially by grief and loss.

Pericardium. The pericardium is seen as the active mechanism of the *heart*; it is said to act as the protector of the *heart*, buffering the integrity of the body-mind continuum.

Depression is conceptualized as a complex interplay of the disease mechanisms described above, which is affected by the following three main factors: (a) the patient's predisposing tendency toward *vacuity* or *repletion* of either *yin* or *yang*, (b) the *liver's* inability to maintain the free and smooth flow of *qi*, and (c) a disturbance in the *heart's* function of housing the mind or spirit (*shen*).

Depression During Pregnancy

Although the disease mechanisms that can determine a woman's risk for depression during pregnancy are essentially the same as the three factors mentioned above, pregnancy per se places specific demands on the system, which may potentially increase a woman's predisposition to experience a depressive episode during pregnancy.

During the first trimester of pregnancy, when menstruation ceases, *blood* and *qi* back up in the *liver* and the *liver* becomes *replete* and loses its ability to maintain the free movement of *qi*. This creates or exacerbates a predisposition to *liver qi stagnation*. Because the *liver* also stores the *blood*, prolonged *liver depression* may also aggravate *blood stasis*. Throughout pregnancy, there is an increased demand for *qi* and *blood* to nourish and promote the development of the fetus; this may weaken the *spleen* by placing an increased demand on its functions, thus leading to *insufficiency of qi and blood (vacuity)* or to *accumulation of dampness and phlegm (repletion)* (Flaws, 1992). *Qi* stagnation, when severe or prolonged, may transform into *heat or fire*, further complicating the scenario.

The *kidney* is the source of *yin*, and after conception, it nourishes the fetus with essence. Because *blood* and *essence* share a common source and they are both considered in a continuum with *yin*, when so much *blood* and *essence* are focused on nourishing the fetus, the rest of the body may suffer an insufficiency of *yin*. *Yin vacuity* may lead to *yang repletion*, and *yang*, when it is in excess, may *counterflow* upward, causing mental agitation and restlessness. If the *yin* of the kidney is *insufficient*, it may be unable to fulfill its function of both nourishing the fetus and moistening and relaxing the *liver*.

To properly perform its function of housing the *shen* spirit, the *heart* depends on sufficient *blood* to maintain awareness and to integrate the being. If, due to *spleen vacuity*, the blood is insufficient, it may precipitate or aggravate a preexisting inadequacy of the *heart* to house the *shen* or spirit.

A Standardized Approach to Acupuncture Treatment of Depression

The standardized approach to treatment that is described below does not prescribe a fixed set of points to all depressed patients. Rather, it provides a set of principles and guidelines that were designed to produce reliable and replicable diagnoses and treatments. The treatment protocol derives from the eight-principle pattern differentiation model, a conceptually derived algorithm matrix that organizes the relationship between clinical signs and *yin* and *yang* (Kaptchuk, 2000). The resulting standardized approach is faithful to the principles of Chinese traditional medicine, and it allows the practitioner to individually tailor acupuncture treatments to fit each patient's specific way of experiencing depression. For example, a person experiencing depressed mood with lethargy and weakness, decreased motivation, lack of

appetite, and excessive desire to sleep would be conceptualized in Chinese medicine terms as manifesting a pattern in which *yin* is predominant and *yang* is insufficient. On the other hand, if the person were experiencing irritability, anxiety, agitation, excessive appetite, and insomnia, this would reflect a pattern in which the *yang* is relatively replete and the *yin* is insufficient. The point selection for each treatment and the sequence of treatments are selected on the basis of symptom combination and their severity. The treatment protocol has been formalized into a treatment manual that provides a comprehensive explanation of the correspondence between depression symptoms as defined in the *DSM-IV* and the eight-principle model and that presents guidelines for treatment design (Schnyer, Allen, Hitt, & Manber, 2001).

METHOD

Design

The two cases presented below were chosen from a pool of participants in an ongoing study examining the efficacy of acupuncture in the treatment of pregnant women with major depression. Participants were recruited primarily from obstetric clinics and from advertisements in parenting magazines. To qualify, participants had to be 18 years or older, be medically stable with viable pregnancy (gestation age between 12 and 30 weeks), satisfy *DSM-IV* criteria for current major depressive disorder, and score at least 14 on the 17-item Hamilton Rating Scale for Depression (HRSD) (Hamilton, 1967). A complete list of all exclusion criteria remains beyond the scope of this article. Inclusion and exclusion criteria were determined based on clinical interviews (SCID-IV [First et al., 1994] and HRSD₁₇), review of medical records, and results from laboratory screen tests (a thyroid panel and a urine drug screen). Participants who met inclusion and exclusion criteria were assessed by an acupuncturist and then randomly assigned to one of the three experimental groups: treatment designed to specifically address the symptoms of depression that uses the protocol described above, treatment that addresses symptoms other than depression but uses valid acupuncture points, and prenatal massage.

To control for potential biases, the acupuncture treatments were provided in a double-blind fashion by separating the process of assessing the patient and designing a treatment plan from that of delivering the prescribed treatment. Acupuncture treatment plans were designed at baseline and updated every month by a planning acupuncturist who followed a treatment manual (Schnyer et al., 2001). A different acupuncturist, the treating acupuncturist, provided the treatment as prescribed by the planning acupuncturist. Treatment providers, all licensed acupuncturists, were instructed to minimize verbal contact with patients and to refrain from giving any advice. Participants were similarly instructed to minimize verbal contact with the provider. All treatment sessions were audio recorded and randomly inspected to ensure that these instructions were being followed.

Treatment

Treatment consisted of 12 sessions, twice a week during the first 4 weeks and once a week during the second 4 weeks. All treatment sessions, regardless of type, lasted approximately 25 minutes. Treatments were provided by standardized needle insertion and needle stimula-

tion techniques. Needle stimulation was neutral, and the protocol excluded all acupuncture points that are forbidden or advised to be used with caution during pregnancy.⁴

Measures

The main clinical outcome measure was an in-person clinical interview (HRSD) conducted monthly by interviewers that were blind to the treatment group to which the participant was assigned. In addition, standardized assessment tools were used to determine patterns of disharmony and to assess the patient from the perspective of Chinese medicine.

CASE REPORTS

The cases below are presented from the integrated perspective of Western psychiatry and Chinese medicine. In addition to describing the onset, characteristics, and severity of depression in psychiatry terms, a Chinese medicine clinical overview is included that describes the individual's experience of depression, an outline of their symptoms, and a description of the pulse and tongue. To convey the process of assessment that leads to the design of an acupuncture treatment, signs and symptoms are then differentiated according to the eight-principle pattern differentiation model, patterns are presented, treatment principles are outlined, and a sample point selection is given. The names of the acupuncture points are represented by the channel name and the number of the point (e.g., Liver 3 indicates a point on the liver channel).

Case 1

Clinical presentation. Elizabeth, a 28-year-old woman, was first evaluated during the 11th week of her first pregnancy. The pregnancy was planned, and the father of the baby was involved. Her baseline HRSD score was 19. She described profound lack of energy and motivation. She felt scattered and unable to “pull herself together” to complete her graduate degree. She described nagging guilt, frustration, worry, difficulty concentrating, short attention span, and avoiding contact with others. She also had difficulty falling and staying asleep as well as difficulty getting up after sleep, especially from afternoon naps. She reported morning sickness (queasiness and nausea) that became worse in the evening. She had sinus congestion and a feeling of mucus on the back of her throat. She did not have a significant history of depression, but in the past she had experienced depressed mood in the afternoons during the days preceding menstruation. She had a long history of neck and shoulder tension and experienced mild low back soreness during pregnancy. She had always liked fatty foods and reported that she had been eating more sweets lately. She had one ovary removed 10 years prior to this pregnancy because it was cystic. Her pulses were overall *deep* and *wiry* and a bit *slippery* on the right side. Her tongue was *swollen* and *pale*, with a *thin, white, moist* coating.

Differentiation of signs and symptoms. A profound lack of energy and motivation, difficulty getting up from sleep, guilt and worry, and a craving for sweets—accompanied by a weak pulse and a pale, swollen, moist tongue—are all indicative of difficulty in the *spleen* function of *generating qi*, which was present for a long time and affected the *kidney* (*spleen*

and kidney vacuity). Difficulty concentrating, feeling scattered, and a short attention span, accompanied by trouble falling and staying asleep, indicate that the *spleen* was consequently not generating enough *blood* to nourish the *heart* properly, affecting the *heart's* ability to house the mind or spirit (*heart blood vacuity*). Sinus congestion and mucus in the throat, accompanied by a *white, moist* coating on the tongue, indicated that the *spleen* was also unable to *transform fluids* properly, which were now accumulating and *transforming into phlegm* (*phlegm accumulation*). A deep sense of frustration, neck and shoulder tension, and a *wiry* pulse pointed to a loss in the *liver's* ability to maintain the smooth and harmonious movement of *qi* (*liver depression qi stagnation*).

Diagnosis. The technical Chinese medicine eight-principle pattern differentiation for this case was *spleen qi heart blood dual vacuity, kidney yang vacuity, and phlegm damp obstruction and stagnation*.

Treatment. Points were selected to *strengthen the spleen's ability to generate qi and blood and transform dampness and phlegm, to fortify the kidney, to nourish the heart in order to calm and strengthen the mind, and to assist the liver's function of maintaining the free flow of qi*. The technical Chinese medicine treatment principles are referred to as *coursing the liver, rectifying the qi, transforming phlegm to further disinhibiting the qi, fortifying the spleen, strengthening the kidney, nourishing the heart, and calming the spirit*. The following is a sample of points employed in her treatments: (a) Liver 3, to help move and circulate the qi; (b) Urinary Bladder 18 and 20—the associated points for the *spleen* and the *liver*—to assist the respective functions of these *viscera*; (c) Spleen 3, to further strengthen the *spleen* (together, these points harmonize *liver* and *spleen, course the liver, rectify the qi, and fortify the spleen*); (d) Heart 7 and Gall Bladder 40 (together, these points *nourish the heart and clam the spirit*); and (e) Du Mo 21 to further *lift depression*.

Outcome. From the perspective of Western psychiatry, Elizabeth has responded well to treatment. Her HRSD score after 4 weeks of treatment (8 sessions) dropped from 19 to 11, and at the end of 8 weeks of treatment, after a total of 12 sessions, she was in complete remission with an HRSD score of 5. From the perspective of Chinese medicine, by the 8th week, Elizabeth was no longer feeling depressed and felt much more motivated. Her profound fatigue had considerably improved; it was now more a predictable and manageable consequence of her busy schedule and progressing pregnancy than the debilitating problem it had been. The quality of her sleep improved significantly; she was able to fall asleep more easily and felt rested upon awakening. In addition, her pulses were no longer so *deep* or *uneven* in rate; together, these signs signify improvement in the *heart blood* and *kidney qi*. The color of her tongue was not as *pale* as it was at baseline. The congestion in her nose and throat had noticeably improved, indicating a lessening of the *phlegm dampness obstruction*. In addition, there was also noticeable improvement in her physical discomfort, and the pain and tension in her neck and shoulder, indicative of *qi stagnation*, decreased.

Case 2

Clinical presentation. Helen, a 29-year-old woman, was first evaluated during gestation week 30. Her baseline HRSD score was 23. The pregnancy was unplanned, and the baby was determined to have a serious birth defect. She described her mood as very sad and confused

and was finding it difficult to concentrate on her job. She reported feeling unloved, rejected, angry, and withdrawn. During the interview, her voice was low and hesitant and her affect was sad. She reported that she was not interested in doing much. She had back, neck, and shoulder aches and stiffness, which began following an injury but had worsened lately. The pain diminished with stretching and movement and worsened with sitting. She experienced some trouble falling asleep and had disturbing dreams. Although she got enough sleep, she never felt rested. Often her limbs became numb and tingly at night. Her appetite and interest in eating was poor, especially in the morning. Her pulses were overall *replete, uneven, and hesitant*, except in the *middle right position* where they were *weak*; her tongue was *pale and enlarged* but *dusky*, with a *red tip* and a *thick, yellow, and greasy* tongue coating.

Differentiation of signs and symptoms. A deep sense of sadness and confusion, anger, and neck and shoulder stiffness that improves with movement, accompanied by disturbing dreams, in the context of a *dark, dusky tongue*, a *hesitant pulse*, and a *yellow* tongue coating are all indicative of more severe, long-standing *stagnation of liver qi*. Because *qi* is *yang*, when it accumulates for a prolonged period of time, it transforms into *heat* and may affect organs other than the *liver*. Dream-disturbed sleep, profound sadness, and a *red tongue tip* indicated that the *stagnation* was affecting both the *heart* and the *liver* (*depressive heat affecting the heart and lung*). Her withdrawal and confusion and no desire to do anything in the presence of a *large, pale tongue with yellow, greasy tongue coating* and a *weak pulse in the middle position* indicated long-standing weakness of the *spleen* and difficulty *transporting and transforming fluids*, causing *accumulation of dampness and phlegm*, which were manifested in her lack of mental clarity (*phlegm confounding the mind*). Sleep disturbance, *hesitant pulse*, and *pale tongue* all indicated that with the added stress placed on the *spleen* by the pregnancy and the *prolonged qi stagnation*, the *spleen* had also lost the ability to generate sufficient *qi* and *blood*; the *blood* was insufficient to *nourish the heart and calm the spirit* (*spleen qi heart blood dual vacuity*).

Diagnosis. The technical Chinese medicine eight-principle pattern differentiation was *depressive heat affecting the heart and the lung, spleen qi heart blood dual vacuity, and phlegm confounding the orifices of the heart*.

Treatment. Points were selected to *move stagnant qi and assist the lung in circulating the qi to clear heat, strengthen the spleen to transform dampness, eliminate phlegm, and improve mental clarity*. The technical Chinese medicine treatment principles were *rectifying qi, clearing heat, stimulating the descent of lung qi and resolving depression, fortifying the spleen, transforming dampness, eliminating phlegm, and opening the mind*. The following is a sample of her treatment: (a) Liver 3 and Liver 14 to *restore the liver's ability to maintain the smooth flow of qi, in turn to help clear heat*; (b) Spleen 3 and Stomach 40, to *strengthen the spleen, transform dampness, and eliminate phlegm*; (c) Lung 7, to *circulate the qi of lung*; and (d) Pericardium 5 and Gall Bladder 18, to *clear phlegm and open the mind*.

Outcome. From the perspective of Western psychiatry, Helen has responded well to treatment. Her HRSD score after 4 weeks of treatment (8 sessions) dropped from 23 to 11, and at the end of 8 weeks of treatment, after a total of 12 sessions, she was in complete remission with an HRSD score of 6. From the perspective of Chinese medicine, by the 4th week, Helen reported not feeling as upset and bothered by her situation as she had felt before; she was

much less worried about the future and was not as sad and confused. She was looking forward to the arrival of the baby and was making plans to accommodate the infant in her life. Her back, neck, and shoulders were less stiff; she did not feel so frustrated; and her disturbing dreams had diminished. In addition, her tongue was no longer *dusky* or *red at the tip*, and its coating was less *yellow* and less *thick*, indicating a decrease in *depressive heat* and improvement in the movement of *qi*. Her pulses were *stronger*, especially at the *second position on the right*, and overall they were more *relaxed*. Altogether, these changes indicate a strengthening of the *spleen qi*, a lessening of the effect of the *phlegm on the heart and mind*, and a success in assisting the *liver's function of coursing the qi*.

DISCUSSION

The cases presented above are representative of two commonly encountered pattern combinations in women experiencing depression during pregnancy and illustrate the rationale for the design and delivery of acupuncture treatment based on the Chinese medicine framework. In general, from the perspective of Chinese medicine, depression is due to *insufficient nourishment to support the mind*, to *heat agitating the mind*, or to *something blocking or confounding the mind* (Flaws & Lake, 2001). In Case 1, Elizabeth's depression was due primarily to *insufficient nourishment to support the mind* resulting from *dual vacuity of qi and yang* and *scarcity of heart blood*. In Case 2, although Helen presented with some *heart blood and spleen vacuity*, her depression manifested primarily as a combination of *heat agitating the mind due to prolonged and severe qi stagnation* and *phlegm blocking and confounding the mind*. Helen's depression resulted from combined *vacuity* and *repletion* patterns, with *repletion of phlegm and depressive heat*.

CONCLUSIONS

Chinese medicine provides a framework for assessing and treating women suffering from depression during pregnancy. The efficacy and safety of the standardized approach to acupuncture treatment that follows from this framework is still under investigation. This ongoing study demonstrates the feasibility of a systematic integration of Western psychiatry and traditional Chinese medicine in the evaluation and treatment of depression during pregnancy. The integrated approach allows for the deliverance of individualized treatment based on the nature of each person's experience of depression, which at the same time can be translated into a replicable and standardized treatment (Schnyer & Allen, 2002). Because maternal depression can have a detrimental effect during the formative life of an infant, the role of acupuncture in preventing and treating postpartum depression should be further investigated.

NOTES

1. For example, although the same names are used to define the organs in both Chinese and Western medicine, the concept of organs as anatomical structures in the manner defined by biomedicine and as functional units in the manner defined by Chinese medicine is very different for each system.

2. There are five *viscera* (*yin* organs): heart, spleen, lung, kidney, and liver, and six *bowels* (*yang* organs): small intestine, stomach, large intestine, urinary bladder, triple heater, and gall bladder. For each, there is a corresponding channel. In addition, there is a sixth *yin* channel, pericardium, which is subsumed here under the functions of the heart. The triple heater is a function that has no anatomical correlation and summarizes the functions of water metabolism and thermoregulation.

3. Pulse diagnosis involves palpation of the radial pulse (over the wrist on both arms) to compare the relative strength of the pulsation of the radial artery at three positions (distal, middle, and proximal) and to assess the particular quality of these pulsations. Tongue diagnosis involves a systematized method of visual inspection to assess the size, color, and tonus of the tongue body and the color, texture, and thickness of the tongue coating (Birch & Felt, 1999).

4. These points were Large Intestine 4; Spleen 1; Spleen 6; Gall Bladder 21; Urinary Bladder 60; Urinary Bladder 67; Conception Vessel 3, 4, 5, and 6; Stomach 36; Stomach 45; Urinary Bladder 23; Urinary Bladder 32; Kidney 4; and Gall Bladder 44.

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POEM

This poem was written several years ago while I was in Freudian analysis. In therapy, I focused mainly on “working through” the loss of my mother when I was 10 years old. Young children do not have the cognitive development to fully mourn a loved one. They are typically sad for a short period of time and then repress the feelings, interpretations, and behaviors acquired at the time of the loss. They hide those sad memories in the unconscious mind.

It was while I was taking the journey back to my childhood years that I wrote the poem “Meaninglessness.” I realized that I had interpreted my mother’s death as rejection. I had thought that if I had been a perfect little girl and helped out with house chores rather than playing all the time, she would not have died. In that little-girl mind, I further deduced that if my mother did not love me, no one else would ever be able to love me. Indeed, I was not worthy of any feelings of deep affection because I had let my mother die. From that perspective, my life was meaningless.

When I wrote the poem, I was inspired by the Skeeter Davis song “The End of the World.” It is about the deep feelings of sorrow people often have when a lover breaks off a relationship. Bringing to light my feelings became part of the healing process.

MEANINGLESSNESS

How can the sun still shine
I see darkness all around
Why do birds still fly
When I just want to die

Why do stars still sparkle
When my soul is so sad
Why do waters flow to shore
There is no purpose anymore

Why do men still muse
Why hasn’t everything stopped
Why isn’t someone seeing
My dreary meaningless being

Why is my heart still hunting
Why doesn’t everyone weep
Why are things the same as before
The world makes no sense anymore

Surely this pain must be in vain
But still I feel so weary

I must seek some peace
Please, let the suffering cease

ANNI DAMGAARD, PHD
Arizona State University

LETTER TO THE EDITOR

Dear Editor,

An article titled “A Preliminary Survey of Complementary and Alternative Medicine (CAM) Courses in Graduate Public Health Programs” appeared in the winter/spring 2001 issue (Vol. 6, No. 2) of *Complementary Health Practice Review*. It included a list of ASPH Schools of Public Health and the related departments that offered CAM courses in their curricula. The following information was not included and is provided as an addendum to that list: George Washington University School of Public Health and Health Services offers a cross-department elective CAM course titled “Alternative and Complementary Health Practices.” The course was first taught in 1995 by Alan Trachtenberg, MD, MPH, and has been regularly offered since its inception. George Washington University also offers a CAM course in the School of Medicine and has a Center for Integrative Medicine.

Sincerely,
ADAM BURKE, PHD, MPH
San Francisco State University

College-Level Course on Vegetarian Nutrition on the Internet

Vegetarian Nutrition: Food for Life, a college course taught completely online, is now available for anyone interested in health and nutrition issues.

Nutrition research is pointing to the fact that vegetarian diets are optimal for the prevention of chronic diseases such as heart disease and cancer. With this evidence comes a need for more in-depth education on the subject. In addition, there are very few courses on vegetarian nutrition offered at major universities. For online courses about vegetarian nutrition, there is one known to exist, offered through the Los Angeles Trade–Technical College, geared toward culinary professionals. The online college course NHM 305: Vegetarian Nutrition was developed to meet the growing demand for information in vegetarian nutrition.

Vegetarian Nutrition discusses how plant-based eating helps prevent and treat heart disease, cancer, and other serious illnesses; how the vegetarian diet aids weight loss; and how it can provide the basis for optimal health. It also emphasizes practical information: how to develop menus, evaluate diets, and counsel clients.

Although this course is geared mainly toward future health professionals currently enrolled in nutrition, nursing, premedical, or other health-related programs, the course will appeal to anyone with an interest in health and nutrition issues, as well as those interested in learning more about vegetarian diets.

Vegetarian Nutrition was first offered in January 2002 for the spring semester. It was followed by courses in June, and then again in August 2002 for the fall semester. The three-credit course requires no prerequisites for enrollment. The cost of tuition for Vegetarian Nutrition is \$410 (\$130 per semester hour, plus a \$20 registration fee). For those interested in enrolling in Vegetarian Nutrition, please visit www.vegetariancourse.org or the University of Alabama distance learning Web site at <http://bama.disted.ua.edu/goals>. As the instructor of Vegetarian Nutrition, I would be pleased to answer any questions about the course. You can reach me, Brie Turner-McGrievy, MS, RD, at bturner@pcrm.org or (202) 686-2210, ext. 310.

BRIE TURNER-MCGRIEVY
Physicians Committee for Responsible Medicine

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EMPLOYEE ASSISTANCE PROFESSIONALS ASSOCIATION

October 28-31, 2001, Vancouver, British Columbia, Canada

This conference was unique on several counts, including the fact that it was the association's 30th anniversary; the first meeting held outside the United States; and the first Employee Assistance Professionals Association (EAPA) conference after September 11—and that last year's meetings were held in New York City. Given this combination of factors, a major informal theme was the employee assistance program (EAP) response to the tragedy and debriefing the experiences for the unknown of the future. In addition, the conference included programs addressing areas such as

- global trends in EAP, work/life, and related workplace services;
- the integration of EAPs and wellness programs;
- bridging the gap between four generations in the workplace;
- research on EAP outcomes, cost benefits, and value;
- the evolution of an EAP into an organizational assistance program; and
- benchmarking EAPs to prove their value and establish best practices.

The multicultural opening celebration featured the East Indian Drummers, the Strathcona Chinese Dance Company, and presentation of a "Talking Stick" to the EAPA president Linda Sturdivant from the University of Pittsburgh Medical Center.

The keynote speaker was Chin-Ning Chu, the author of "Do Less, Achieve More"; the address was titled the same. Her integrative message was "fusing the Eastern wisdom with Western practicality."

Programs of particular significance for our readers included ones such as

- helping your client and organizations hear their own stories,
- spirituality in the workplace,
- integrating health and mental health in the workplace,
- the relaxation response, and
- self-care and energetic enhancement.

Other topics in relation to organizational culture and employee health were conflict resolution, civility, diversity, and stress management.

One of the special interest groups, to which I belong, the International Association of Employee Assistance Professionals in Education, developed a 2-day program around the theme "Expand Your World . . . Stretch Your Boundaries." Good advice for all of us! Several presentations led to invitations for submission of manuscripts to *Complementary Health Practice Review*. Anyone interested can log on to the organization's Web site at www.iaeeape.org.

Finally, please send your “Conference Comments” along with a meeting program. We are looking forward to hearing from you.

Next year’s meeting will be in Boston in October.

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RESEARCH ABSTRACTS

Effectiveness of St. John's Wort in Major Depression: A Randomized Controlled Trial.

Richard C. Shelton et al. (2001). *Journal of the American Medical Association*, 285, 1978-1986.

The purpose of this randomized controlled clinical trial was to compare the efficacy and safety of a standardized extract of St. John's wort with placebo in outpatients with major depression. A randomized, double-blind, placebo-controlled clinical trial was conducted between November 1998 and January 2000 in 11 medical centers in the United States. Participants included 200 adult outpatients diagnosed as having major depression and having a baseline Hamilton Rating Scale for Depression (HAM-D) score of at least 20. The mean age was 42.4 years, 67% of the participants were women, and 85.9% were White.

Participants completed a 1-week, single-blind run-in of placebo, then were randomly assigned to receive either St John's wort extract or placebo for 8 weeks. The main outcome measure was the rate of change in the HAM-D over time. Secondary measures used to evaluate the participants included the Beck Depression Inventory, Hamilton Rating Scale for Anxiety (HAM-A), the Global Assessment of Function scale (GAF), and the Clinical Global Impression–Severity and Improvement scales (CGI-S and CGI-I).

The random coefficient measures for the HAM-D, HAM-A, CGI-S and CGI-I all showed significant effects for time but not for treatment or time by treatment interaction. The proportion of participants achieving an a priori definition of response did not differ between groups. St John's wort was safe and well tolerated, with headache being the only perceived adverse event. The conclusion was that St. John's wort was not effective in treating major depression in this study population.

Use of Alternative Remedies by Psychiatric Patients: Illustrative Vignettes and a Discussion of the Issues. Joel Yager, Susan L. Siegfried, and Thomas L. DiMatteo. (1999). *The American Journal of Psychiatry*, 156(9), 9-16.

Three case studies are presented with a discussion of issues following. The first case is a 38-year-old Native American man with alcohol-induced mood disorder being treated with fluoxetine who took two gel tablets of valerian root extract obtained from a friend. The mechanism of action of valerian root, alcohol, and fluoxetine are discussed. The message was that valerian root is a pharmacologically complex and potentially potent γ -aminobutyric acid agonist.

The second case is a 24-year-old woman with a possible diagnosis of panic disorder. She eventually acknowledged that she was taking kava, passionflower extract, and wild oat to help the panic attacks. In a later session, she indicated that she had started taking St. John's wort and had experienced a reduction in panic attacks from three or four per day to roughly three or four per week, and she attributed this reduction to the St. John's wort. She agreed to

cognitive behavioral therapy and continued the combination of herbal remedies for the next several months.

The third case is a 24-year-old woman with chronic anorexia nervosa who sought help at the university mental health center after the naturopath, general internist, and psychologist who were treating her in the community became increasingly alarmed by her weight loss and felt her medical condition was too precarious to continue treatment on an outpatient basis. On admission, she was 5 feet, 4 inches tall and weighed 80 pounds. When she entered the treatment facility, she carried a large shopping bag filled with a variety of natural remedies she had been taking and asked to be permitted to continue their use during her stay. She believed they helped. The bag contained protein powder for shakes, St. John's wort, kava, passionflower extract, spirulina, and biotin. There is discussion of the staff reaction to the items, how staff and client differences were resolved, and the rationale for the decision.

The patient's perspective is discussed as well as the clinician's perspective on the use of alternative and complementary treatments. Every clinician should be open to exploring and discussing his or her patient's use of and questions about alternative treatments. Guidelines are presented that include routinely questioning patients about alternative therapies, discussing safety and efficacy, discussing the merits of alternative treatments, providing information, learning about alternative therapies, and determining characteristics of proposed alternative treatments and practitioners.

Mental Disorders and the Use of Alternative Medicine: Results From a National Survey. Jurgen Unutzer et al. (2000). *American Journal of Psychiatry*, 157, 1851-1857.

This study examined the relationship between mental disorders and the use of complementary and alternative medicine. Data from a national household telephone survey conducted in 1997-1998 and a sample of 14,985 individuals were selected from a random sample of 30,375 in the original study for reinterview. Of the 14,985 respondents selected for the sample, 9,585 completed the interview, for a response rate of 64.0%. Informed consent was obtained from all participants. The telephone survey included questions on demographic characteristics, health and daily activities, mental health, alcohol and drug use, insurance coverage, and the use of medications and health services. To assess complementary and alternative services used, the following question was asked: "In the past 12 months, did you use any alternative or folk medicine, either from a practitioner or on your own?" An example of alternative therapies was given to the participants. The presence of mental disorders was assessed using a structured diagnostic interview.

Use of complementary and alternative medicine during the past 12 months was reported by 16.5% of the respondents. Of these respondents, 21.3% met diagnostic criteria for one or more mental disorders, compared to 12.8% of respondents who did not report use of alternative medicine. Respondents with panic disorder and major depression were significantly more likely to use alternative medicine than were those without these disorders. Respondents with mental disorders who reported use of alternative medicine were as likely to use conventional mental health services as were respondents with mental health problems who did not use alternative medicine.

Implications of this study are that practitioners of alternative medicine should look for mental disorders in their patients and conventional medical providers should ask about complementary and alternative therapy usage.

The Use of Complementary and Alternative Therapies to Treat Anxiety and Depression. Ronald C. Kessler et al. (2001). *American Journal of Psychiatry*, 158, 289-294.

A survey was conducted between November 1997 and February 1998 among a nationally representative household with telephones. Random-digit dialing was used to select households, and a random selection method was used to select one respondent age 18 or older for interview in the household. Verbal informed consent was obtained. Eligibility was limited to English-speaking individuals without cognitive or physical impairments. A total of 2,055 interviews were completed, representing a 60% weighted response rate. Only 2,049 interviews were analyzed due to missing data for 6 respondents.

Interview questions concerned perceived health, functional impairment due to health problems, and interactions with medical doctors. A checklist of about two dozen chronic conditions including anxiety attacks and severe depression were included. Questions were asked about respondent's lifetime and 12-month use of 24 complementary and alternative therapies. The therapies were divided into four large subcategories for purposes of analysis: cognitive feedback (relaxation techniques, imagery, self-help groups, hypnosis, and bio-feedback), oral medication (herbal medicine, megavitamins, homeopathy, and naturopathy), physical treatments (massage, chiropractics, osteopathy, yoga, and acupuncture), and other therapies (spiritual healing by others, dietary modifications, lifestyle diet, special diet for losing or gaining weight, energy healing, aromatherapy, folk remedies, laughter, other therapy to treat pain, and other lifestyle intervention programs). Cross-tabulation and logistic regression analysis were used to analyze the data.

A total of 9.4% of the respondents reported they had anxiety attacks, and 7.2% reported they had severe depression at some time in the 12 months before the interview. Seventy-five or 38.8% of the people with anxiety attacks also reported having severe depression. Most complementary and alternative therapy use was unsupervised. Anxiety attacks, severe depression, and back and neck pain were the four conditions for which a majority of people with the conditions reported use of complementary and alternative treatments. A wide range of complementary and alternative therapies were used, and data were presented in a table. The most commonly used therapies were relaxation and spiritual healing by others. The perceived helpfulness of alternative therapies in treating anxiety and depression was similar to that of conventional therapies. Most individuals with these problems used conventional treatments and often failed to inform the health care provider of their use of complementary and alternative therapies.

Limitations of this study included limiting the participants to English-speaking individuals living in households with telephones. Additional limitations included the poor response rate, self-characterization of anxiety attacks, and severe depression (60%).

In light of potential risks of some complementary and alternative therapies in combination with conventional therapies, health care providers need to adopt a proactive stance and discuss complementary and alternative therapies with patients.

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BOOK REVIEWS

The Balance Within: The Science Connecting Health and Emotions. Esther M. Sternberg. (2000). New York: W. H. Freeman. \$24.95, 250 pp., hardcover; \$14.95 paperback. ISBN: 0-7167-3479-6.

In *The Balance Within*, a brilliantly written book for the scientist and nonscientist alike, Esther Sternberg, MD, a world-class researcher trained in rheumatology, bridges the elusive connections between the brain, emotions, and health. Sternberg, when she wrote the book, directed the Molecular, Cellular, and Behavioral Integrative Neuroscience Program and was chief of the section on neuroendocrine immunology and behavior at the National Institutes of Health and National Institute of Mental Health, where sophisticated research programs demanded not only tough-minded science but also strict adherence to traditional institutional and disciplinary boundaries. One of her objectives for writing this book was to cross these parochial barriers of established research specialties and fields of study to integrate her colleagues' scientifically based knowledge to explain the mind-body (and spirit) connection. This integration is evident throughout her erudite work, in which she deftly combines the natural sciences, social sciences, humanities, and fine arts to tell her story—a mystery. Sternberg's mind-body search concentrates on the interface between the immune system and the nervous system, whereby she describes and explains the pathways by which each of the systems and their feedback mechanisms controls and regulates the other in stress-related diseases such as fibromyalgia and chronic fatigue syndrome.

Internationally recognized as a scholar, she details how colleagues scattered geographically and across multiple scientific specialties combined their knowledge gained from breakthrough experiments of the brain, emotions, health, and disease to describe and explain how the body influences the mind and how the mind influences the body. Even for academicians who have worked so long to keep their boundaries sharp, she notes, the space between body and mind is beginning to blur. For her, this speaks well for future science because if scientists agree to cross the boundaries of disciplines, to share and cooperate with each other for the public good, this in turn may wed popular culture with the exactness of modern science—a win-win for all.

Relying on the medium of social history, her mystery of the mind-body connection begins with the prevailing wisdom and application of Greek medicine in their ancient baths, continuing with a social observer's exposition of social life and anatomical dissecting tables in 16th-century Italy and on to the drama occurring in contemporary high-technology laboratories and complex computer facilities. She shows how the accretion of stores of knowledge through the centuries resulted in our multiple scientific specialties fiercely competing and separating from, rather than cooperating, with each other. Social history, par excellence, we are introduced to the ideas, inventions, experiments, and results from a host of multidisciplinary personalities in diverse cultures, from the ancients to the 21st century, as humans search for and debate the association between health and emotions. This journey alone is worth the read.

In chapter 1, “Emotions and Disease,” Sternberg takes us on a guided tour of the ruins of an ancient temple to Asclepius, circa 400 B.C., where the sick were cured and emotions and health were one. This temple typified Greek medicine at that time. She wonders how modern scientists and physicians lost that “ancient” sense of wholeness in working with and studying ill people and why it has taken so long for us to rediscover and accept the holistic approach to health and medicine. Pointing out that Descartes’s philosophies dominated thinking for centuries, she recounts how it would take the technological tools and specialized knowledge of today to “see” inside the cells and organs of the immune and nervous systems to derive acceptable causal statements for the scientific community to consider seriously.

Chapter 2, “Where Do Emotions Come From?” tells us how emotions as entities are difficult to define and to investigate empirically because of their uncontrollable, changing nature. Whatever their form and definition, she concludes that “[research] studies tell us that the anatomical and cellular organization of the brain’s structures, which receive sensory inputs from the environment and transduce them to physical responses, do shape the characteristics of those ephemeral sensations we call emotions.” And with the new science of immunology, scientists would “discover how the biological underpinnings of emotions differ from those of the immune system, which responds not to intangible threats or temptations perceived and anticipated by the sensory organs but to the tangible present danger of chemical or living invaders.”

In chapter 3, “The Dirty Soup Beyond Our Skin,” in a free-ranging discussion of history, the discoveries and research on the immune system are highlighted and underscored as part of today’s advances. The concluding pages in this chapter highlight how the recent discovery and synthesis of interleukins, between-cell signaling molecules,

gave scientists the tools to prove there could be invisible ways not only for immune cells to signal one another but for the immune system to signal distant organs, including the brain. . . . Until this was done, no one could imagine the means by which these two systems could communicate from a distance.

Thus, the impossible seemed possible.

Chapter 4, “Putting the Mind and the Body Back Together Again,” chapter 5, “The Immune System Talks to the Brain and the Brain Talks Back,” and chapter 6, “When the Brain-Immune Communication Breaks Down,” emphasize findings from stress research, popularized by Hans Selye (a family friend), to illustrate how the immune system and brain interact. As a sociologist unfamiliar with the jargon of contemporary natural scientists, I found these chapters, in parts, difficult to follow and understand. Still, the experiments she cites and the information gained through them give the reader a sense of the major scientific accomplishments, and sometimes disappointing setbacks, detailing how immune molecules could signal the brain’s stress response and the importance of those signaling pathways in disease. Multiple paths led scientists to consider multiple explanations and causes and Sternberg’s interesting statements at the end of chapter 6:

There are many, many ways in which the nervous system regulates immune responses—through hormones and blood-borne routes, through sympathetic nerves in immune organs, and through peripheral nerves in skin and joints and sites of inflammation. . . . Finally knowing all these different routes that connect the brain to the immune system helps us understand just how stress can make you sick and how believing [mine] can make you well.

Chapter 7, “Can Stress Make You Sick?” reviews the range of research on good and bad stress, relates that information regarding susceptibility to infectious disease, concluding that “stress can make you sick because the hormones and pathways activated by stress change the way the immune system responds, making it less able to fight invaders.” Yet as she does throughout the book, she moves comfortably back and forth between micro and macro explanations, and now she examines group dynamics, specifically social relationships as contributors or buffers to stress.

Social relationships and stress are examined in chapter 8, “Connecting to Others.” Here the discussion is broad, historical, and filled with insights, and she decides “there are positive and negative effects of our social world on health . . . [and that] a rich and varied fabric of positive relationships can be the strongest net to save us in our times of deepest need.” And in chapter 9, “Can Believing Make You Well?” she wonders if we can “consciously choose to improve our health.” Plausibly, she discusses that beliefs can take the form of expectations leading to actions to heal ourselves or to learn how to heal as in the possibility of training the immune system to respond to a conditioned stimulus. She further considers healing and placebo effects, miracle cures, prayer, ritual, stress management, pain control, opiates, and so forth as players in the theater of the body-mind. Now the challenge, she notes, is to “define the paths by which thoughts and beliefs formed by learning and association in the cortex of the brain could send signals down through spinal cord and nerves to change immune cell function and disease.”

Chapter 10, “How the Immune System Changes Our Moods,” questions how an immune molecule released in a part of the body distant from the brain can signal the brain in less than seconds. Here she reflects on the effects of cytokines on mood, looking at depression in Alzheimer’s and AIDS patients. She wonders whether “in some cases, cytokines out of balance in the brain could lead to illnesses such as depression” and that new therapies might be developed to treat depression by regulating cytokines. These need further study. With these new ideas requiring more experiments, Sternberg looks to the future in chapter 11, “Prometheus Unbound.” In her future, a “new science” will evolve that “will force us to learn to listen and to speak to each other in each other’s languages.” Thus, she looks to the time when the general public, physicians, medical specialists, and scientists work together to learn from and to respect each other, advancing our knowledge of the mind-body connection.

I encourage you to read Esther Sternberg’s book, as she skillfully and intelligently makes science come alive and contributes to our understanding of complementary health, to continue blurring the mind-body connection.

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Biomedicine and Alternative Healing Systems in America: Issues of Class, Race, Ethnicity and Gender. Hans A. Baer. (2001). Madison: University of Wisconsin Press. \$21.95, 222 pp., softcover. ISBN: 0-2991-6694-5.

Hans Baer has performed an important service for readers of this journal by providing a carefully organized overview of medical pluralism in the United States. Although a number of

books treat individual alternative and traditional medical systems in more depth and others use different approaches that are selective rather than comprehensive, Baer gives us a fairly even coverage of the facts and literature on the major alternative and complementary medical systems. This book provides enough factual detail to develop an understanding of the individual healing systems. Most detail can be found in the chapters on osteopathy and chiropractic medicine that are clearly at the forefront of the author's interests. The writing is clear and straightforward, the concepts are easy to grasp, and the ideas are of current interest. In my opinion, this latest book by a prolific author is an important addition to the corpus of literature necessary to teaching about the subject and fills a vacuum by its comprehensive coverage of this field of study.

This would probably be sufficient to recommend the book if this was its only goal; however, two other dimensions contribute to its usefulness in the classroom and its interest to the informed reader. First, the discussion of these systems is a treatise on the sociopolitical background of medicine in the United States, emphasizing how power structures and struggles, as well as social hierarchies, shape and often determine health policy. Baer carefully plots the lines of demarcation between the healing systems—between biomedicine and the other healing systems in particular—but he also takes pains to examine those instances in which there is cooperation or collusion. Because he takes a historical perspective, the development of several of these healing systems becomes a tangible and changing reality that has led to the present situation in which practitioners of biomedicine and some programs have begun to integrate alternative and complementary systems into biomedical practice.

Second, Baer is one of few researchers who has charted the history of medical pluralism in the interest of showing changing views across time of what kind of medicine is efficacious or even acceptable. Osteopathy, developed toward the end of the 19th century, has almost fully adapted to the dominative biomedical system during the later decades of the 20th century. At first mainly devoted to alternative techniques, it came to fill a gap in the delivery of primary care as biomedicine became more highly specialized, and most doctors of osteopathy (DOs) use fewer alternative practices. Baer describes this as cooptation, but it is not complete as some DOs hold out for their special forms of treatment. It is a trend that bears following with regard to how powerful the dominative system remains.

There are two additions to this book that I would appreciate. First, the treatment of traditional (“folk”) healing systems in ethnic minority communities seems somewhat lacking in depth given the enormous literature on these systems as alternatives that are very alive and spreading, in most cases. There are clearly power struggles here that deserve examination and explanation, interrelated with important issues of cultural and ethnic identity. Moreover, the borrowing of specific techniques from these “folk” systems, such as acupuncture, and how these treatments have acquired legitimacy and/or popularity is an important theme yet to be adequately researched. Second, although my interest was peaked by the concluding chapter that charts the growing movement toward integration of alternatives into biomedicine, this chapter is much too brief in describing how to achieve a movement toward an “authentically holistic and pluralistic medical system” (p. 189) and whether we are actually on that road. Baer's observation that the holistic health movement stresses body-mind connections but excludes the social dimensions of health is a valid and important first step toward envisioning a newer progression in healing approaches. Behavioral scientists have long agreed that illness and its treatment is not just a property of the individual but is also interpersonal, familial, and societal.

Despite the above concerns, this book is certainly a worthwhile addition to the instructional literature and can replace some that are less useful. It will also reward the casual reader with a broad view of healing systems in the United States and many interesting ideas. The author is to be congratulated on its style, concept, and reasonable price.

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VIDEO REVIEW

Good News About Sad Views (77 minutes). (1996). AM Tech Video, Inc., 6585 Smith Road, Cleveland, OH 44142-3716; phone: 216-676-0441 or 800-262-8723.

Dr. Bruce Bynum, Dr. Eric Rauch (STM), and Susan Wright (PhD) have created this “work tape” for people with depression. They chose a video format because they have found that “many depressed people are unable to read and comprehend new ideas when in the depth of their depression. Also, many people (for a variety of reasons) can’t see a professional as often as they need to.” They suggest that the tape be viewed in shorter segments at first and returned to often. It is not to be used by individuals with more serious mental illnesses such as manic depression, and it is not intended to replace care under a therapist. The video uses a variety of strategies, such as positive reframes, meditation, and exercise, to help people with depression.

In the first segment, Rauch introduces us to the symptoms of depression and then a variety of forms of self-treatment such as herbs and mental exercises. In addition to prescription medications and counseling, the video suggests that certain vitamins, supplements, and herbs may help with depression. They note in particular vitamin B complex, niacin or niacinamide, gerovital h-3, and L-tyrosine. Rauch stresses that viewers must see a physician before they self-treat. Rauch says that you need to treat depression from multiple angles. Even though people cannot will themselves into and out of depression, according to Rauch, they do not have to rely solely on a therapist to recover. For example, they can learn to exercise some control over their emotions. He suggests that because the conscious and subconscious mind are connected, depressed people can use positive reframes to train the subconscious to replace negative thoughts with more realistic, positive ones. The hope is that if you train the subconscious, eventually this may affect the conscious mind. First, you are to make a list of negative thoughts and then create a positive reframe for each one. For example, if you ask yourself why your spouse had to die, you could say to yourself, “I can’t say why, but I can be thankful for the relationship.” If you wonder why someone left you, you could say, “I can’t say why, but I can start anew.” Other exercises include setting aside time to reflect, expressing emotions such as anger when appropriate, finding happy people to see what they do, joining a support group, and using music therapy.

The next two sections suggest that meditation and exercise can also alleviate the symptoms of depression. Wright guides viewers through a meditation exercise in the second segment. After relaxing, viewers are asked to put their negative emotions into a box, which is then taken away by a hot air balloon. After Wright begins the exercise, the screen fades to a graphic of stars in the sky, which is less distracting than having her on the screen throughout. The final segment includes an exercise routine. Pat Jankovsky, an aerobics instructor, takes viewers through a low-impact aerobic routine because the creators of the tape argue that exercise can help the mind.

Good News About Sad Views is filled with a variety of strategies that allow individuals to be proactive about their mental illness. Many people with depression should find something helpful in this video.

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Abstracts of the American Public Health Association: Alternative and Complementary Health Practices Special Primary Interest Group

INTRODUCTION TO ALTERNATIVE AND COMPLEMENTARY HEALTH PRACTICES

Much of the impetus driving research into alternative and complementary health practices (CAM) has been the public health imperative to learn more about any health behavior of high prevalence in the American population, even though the mechanisms of action or even evidence of action may be unclear or even doubtful to some.

As a health community, we continue to struggle with the definition of CAM. Nevertheless, we are unified in five distinct areas of concern: the need for a CAM office in the Office of the Secretary (Department of Health and Human Services) to oversee, evaluate, and coordinate the department's CAM activities; the need to establish specific points of contact for CAM in all relevant federal agencies, possibly by creating an office in each agency; the need for equitable access to CAM; the need for education of the public and policy makers in the broad range of different aspects of CAM; and the need to accommodate the health traditions of culturally distinct populations and to acknowledge the potential of CAM to address existing health disparities.

One of our critical strengths as a healing community is our diversity, and it is this diversity that continues to endure the tests of both time and popular opinion. This same diversity is reflected in the American Public Health Association's (APHA's) Alternative and Complementary Health Practices (ACHP) Special Primary Interest Group (SPIG).

The following abstracts were presented at last year's APHA annual meeting (at sessions sponsored by the ACHP SPIG) and are surely testament to our collective mission, which is simply to educate the public health community on all alternative therapies.

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**Introducing CAM Therapies Into the Health Professional Curriculum:
Lessons Learned in an Interdisciplinary Course**

The School of Nursing and the Complementary & Alternative Medicine (CAM) Research Center at the University of Michigan have collaborated to create an interdisciplinary graduate course on CAM, targeted to health professional students. Students from public health, pharmacy, nursing, social work, and other disciplines enrolled enthusiastically.

The course provides an overview of CAM, including principles, practices, use, and outcomes of selected therapies and healing systems. Within the framework of the NICCAM categories, it focuses on widely used treatments, including botanical medicine, homeopathy, bodywork, meditation, and traditional Chinese medicine. Students learn to use evidence-based and other criteria to evaluate CAM therapies and research. Ethical, legal, and professional issues for health professionals are emphasized, including communicating with patients and CAM practitioners, facilitating patients' decision making about CAM, assessing CAM services in the community, and incorporating CAM therapies into health professional practice.

The course features speakers from the alternative medicine and lay healing communities, and students observe and experience CAM in the offices of local healers. In addition to lectures, each class features an experiential component, which has proved extremely popular. Class experiences have included meditation, yoga, Tai Chi, massage, and a vegan meal.

This presentation will provide an overview of lessons learned during the course, including the curriculum, discussion guides, experiences, assignments, and tests we developed to enhance and evaluate student learning; the rationale for and challenges of creating an interdisciplinary course; student feedback about the course; and our plans to include more CAM content in the health science curriculum in the future.

Learning objectives: Participants will be able to identify the benefits of and design challenges experienced in an integrative curriculum.

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**Complementary and Alternative Medicine:
Perceptions and Utilization of Ethnic Groups**

Nationwide surveys have demonstrated the growth trend of complementary and alternative medicine (CAM). Unfortunately, many of these surveys have underrepresented ethnic groups. In 1999, a nationwide random telephone survey was conducted to identify perceptions and attitudes toward CAM of specific ethnic groups (Caucasian, African American, Asian, Hispanic, and other). The survey sought to understand the utilization of CAM services and, specifically, what services were used for prevention and/or treatment of a disease or condition. Questions also explored insurance issues and integration and effectiveness of CAM with traditional medical care. Participants will be able to recognize and discuss many examples of these pertinent issues, including usage, effectiveness, insurance coverage, payment mechanisms, condition-specific use, future use, integration with the traditional health

care system, and ethnic-group-specific demographic data. Understanding CAM use by ethnic groups has been unexplored territory in the past; thus, these results will provide us with a greater understanding to better serve their needs within the present health care system.

Learning objectives: At the conclusion of the session, the participant will be able to (a) understand and articulate three aspects of ethnic consumer motivation to use CAM, (b) describe three issues relating to the perceptions of the various ethnic groups on integration of CAM and traditional medicine, (c) analyze the potential implications this trend in CAM use may have on our present health care system, (d) describe the present state of CAM therapies based on the ethnic consumer's beliefs and practices, and (e) list the demographic differences in patterns of CAM use by ethnic group.

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Knowledge and Use of Herbal and Nutritional Supplements Among University Faculty, Students and Staff

The use of alternative therapies such as herbs and nutritional supplements has increased dramatically in recent years. Consumers are self-treating for actual and potential conditions as never before in our history. One in four persons seeking medical care for a serious condition is currently using some form of herbal or nutritional supplement to treat themselves. Only 40% of those using such products inform their health care provider. The Dietary Supplement, Health and Education Act of 1994 classifies herbs as dietary supplements. This classification provides exemption from FDA approval and allows manufacturers to sell the products without restrictions. For this reason, side effects and drug interactions are largely unknown. The potential for interactions between these products and other over-the-counter medications and prescription drugs is significant. Research that determines the prevalence of the use of herbs and supplements by consumers, the consumers' concurrent health problems and prescription medications, and the potential for consumer endangerment from interactions is needed.

Faculty, staff, and students from one urban (14,000 students) and one rural (3,500 students) university were surveyed to determine their actual use of herbs and nutritional supplements, their concurrent health problems, and their use of over-the-counter and prescription medications. Participants were also asked to rate their health status and complete a 10-item knowledge questionnaire. Data analysis includes the use of frequency distributions and contingency tables to determine the presence of significant relationships.

Learning objectives: Objectives are (a) to describe the current use of herbal and nutritional supplements among selected university faculty, staff, and students; (b) to identify the knowledge level of selected university faculty, staff, and students in regard to the use, side effects, and drug interactions of herbs and nutritional supplements; and (c) to describe the occurrence of potentially dangerous concurrent use of herbs/nutritional supplements and over-the-counter and prescription drugs among faculty, staff, and students in selected universities.

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Opening Pandora's Box: The Standardization of Herbal Products

Numerous researchers have lauded the use of standardized herbs, claiming that they provide for quality products for consumers and clinicians among a sea of unregulated nutritional supplements. Some have even proposed that the only herbal medicines available be standardized products. Although standardized products are essential for performing clinical trials and serve as another choice for delivering herbs to patients, they are by no means ideal. First, standardized products do not allow for delivering herbs in different forms such as teas or tinctures. This can limit the therapeutic action of the herb(s) and hinder the optimal manner of treating certain diseases. Second, standardization makes it very difficult to combine herbs to create individualized formulas, which is a common practice in many herbal traditions. Third, there has been little critical examination of the cost-benefit of making a relatively expensive standardized herbal product versus using less expensive methods of delivery. Fourth, standardization has difficulty with the synergistic nature of phytochemicals, which work together to produce the plants' therapeutic action(s). In many cases, an active constituent is known only to have it questioned at a later date by the therapeutic action of other constituent(s) in the plant. Consequently, although a standardized product may have adequate amounts of the "key" constituent, this is no guarantee of the amounts or even the existence of other important plant chemicals. Fifth, standardization separates us from the plants. Instead of the clinicians and patients seeing, smelling, and tasting the plant, they are relegated to "taking a pill."

Learning objectives: The objectives are to examine the strengths and weaknesses of standardized herbal products from the perspective of researchers and clinicians.

SUZANNA M. ZICK, ND, MPH
CAM Research Center, University of Michigan
Ann Arbor, MI

Traditional Chinese Medicine Training for Licensed Acupuncturists Specializing in the Treatment of Cancer

The purpose of this study was to develop and conduct a continuing medical education training program for practitioners of traditional Chinese medicine (TCM) who specialize in the treatment of cancer. The Charlotte Maxwell Complementary Clinic is a licensed primary care clinic that has been providing complementary alternative medicine (CAM) for low-income women with cancer since 1991. The training was designed to increase each practitioner's theoretical understanding of the principles of TCM relevant to treating cancer. Course content included herbal formularies, acupuncture points, and other TCM treatments for cancer and for the side effects of chemotherapy and radiation. Additional emphasis was placed

on evaluating oncology emergencies, herb/drug contraindications, and current allopathic treatments. Case studies were presented and reviewed by class participants. Knowledge and level of confidence in addressing the complications of cancer were measured before and after the 3-month series to evaluate the impact of course content on practitioner's knowledge and confidence in addressing cancer with TCM. After the class, there was an overall increase in knowledge for general practice issues and for dealing with difficult areas related to cancer. Although confidence increased as well, the change was modest by comparison with the increases in knowledge. Results indicate that establishing continuing education for TCM practitioners in a community-based setting is an effective way of providing professional development while extending care to underserved community members.

Learning objectives: The objectives are to learn more by providing continuing professional development in a community setting and to better understand the training needs of TCM practitioners for dealing with cancer at the community level, specifically, to better understand the treatment issues for low-income women with cancer.

LINDA A. WARDLAW, DRPH
University of California, San Francisco
San Francisco, CA

BEVERLY A. BURNS, LAC
Charlotte Maxwell Complementary Clinic
San Francisco, CA

Designing a Clinical Trial on Energy Healing: Hospital Rehabilitation of Cardiac Patients

Until recently, there have been few clinical trials with sound research design investigating the clinical efficacy, risks, and cost-effectiveness of Qigong, a type of energy healing. This presentation addresses the research design of a clinical trial on energy healing: the National Center for Complementary and Alternative Medicine (NC-CAM)-funded, large-sample (360 cases), randomized controlled trial on external Qigong therapy and hospital rehabilitation of midlife and older patients following cardiac surgery. The first part briefly overviews the general concept and background of Qigong and the history of the successfully funded grant proposal of this project. Based on the historical lesson of Franz Anton Mesmer in 18th-century Europe and the rationale drawn from trials on contemporary psychotherapy, the second part of the presentation focuses on the unique role of expectations/placebo in energy-healing trials in comparison with its presumably ineffective counterpart in conventional drug trials. This argument leads to methodological strategies for testing the placebo effect in its own right as a part of potential healing effects and of employing so-called sham or mimic therapy in a three-arm research design. Several specific problems in designing and implementing this mimic therapy are detailed. Finally, the third part discusses other issues that are uniquely raised in designing a clinical trial on energy healing and our resolutions of them.

Learning objectives: Innovation of using a randomized controlled trial to evaluate alternative medicine demonstrated in a design of a large sample trial funded by the NC-CAM (patients following cardiac surgery).

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Ann Arbor, MI

Aromatherapy: Its Cost and Effectiveness in Treating Illness and Disorders

Aromatherapy offers valuable tools to health care professionals. This presentation explores its effectiveness and cost in treating illnesses and disorders such as Parkinson's Disease, Alzheimer's Disease, and learning disorders. Aromatherapy is a caring, hands-on, natural therapy employing essential oils and massage for treating a wide range of disorders. Essential oils ease mental fatigue and stress, relieve depression, reduce back pain and muscle aches, combat bacterial infection, strengthen the immune system, and aid meditation. How it works and/or if it works is the subject of much research. The theoretical basis of aromatherapy is that there is some olfactory-neural connection between the nose and brain that promotes relaxation, increases energy, and restores lost balance to mind, body, and soul. Essential oils work on the mind, influencing the limbic area of the brain, balancing the nervous system, and calming the emotions. Aromatherapy does not remove the stress but distances the individual from it and bolsters his or her coping mechanisms. It is not a substitute for medical care. Considerable research is now being conducted with some promising results. For instance, research conducted by Shirley Price pertaining to aromatherapy's effectiveness in treating Parkinson's suggests that 80% of the sample felt that the essential oils and massage have helped their movement and reduced their side effects of constipation and insomnia. This session will discuss this and other research regarding aromatherapy's effectiveness in treating illness and disorders.

Learning objectives: At the conclusion of the session, the learner will be able to define aromatherapy and its characteristics, recognize aromatherapy's effectiveness in treating various diseases such as Parkinson's, describe the cost involved in aromatherapy, and list additional resources for further information. The learner in this session will be able to list the latest research findings pertaining to aromatherapy's effectiveness.

PATRICIA ANN MCPARTLAND, EDD, CHES
Southeastern Massachusetts Area Health Education Center
Marion, MA

Testing the Efficacy of an Intensive Yogic Meditation Course for Wellness

Yoga is an ancient systematic practice aimed at fostering physiological homeostasis, mental peace, and ecological harmony. The practices entail low-impact physical activity postures

(*asanas*), breathing techniques (*pranayama*), concentration skills (*dharana*), and meditation (*dhyana*). Although different practitioners start learning the practices, they are unable to sustain motivation levels primarily because of inadequate experiential base. Therefore, to overcome this problem and enhance the practical base of yoga practitioners, an intensive experiential course in different meditations was designed and its efficacy tested in a group of interested volunteer practitioners ($n = 20$). The course was implemented at a Midwestern university, and yogic meditation techniques were taught that included candle gazing (*lau dharana*), mirror gazing (*pratibimb dharana*), recitational meditation (*mantra dharana*), primordial sound meditation (*nada dhyana*), Kundalini meditation (*Kundalini dhyana*), and Absolute meditation (*Thuriyateeth dhyana*) under the guidance of an experienced master trainer. A psychometric scale was developed that measured perceived knowledge, outcome expectations, outcome expectancies, self-efficacy for performing asanas, relaxation, and meditation and recollection of the frequency of these behaviors performed in the past week. Using a repeated measures design, statistically significant changes were found in all the study variables. After 6 months of the course, 90% of the participants were regularly practicing meditation. The intensive course approach of the intervention developed in this study needs to be applied in testing the efficacy of yoga-related research influencing the outcomes of several disease recovery and health promotion programs.

Learning objectives: At the conclusion of this presentation, the participants will be able to (a) describe the basic types of yogic meditations for wellness, (b) evaluate the intensive yogic meditation course approach and the psychometric tools developed to measure behavioral constructs, and (c) identify possible explorations of this approach in influencing the outcomes of several disease recovery and health promotion programs.

MANOJ SHARMA, PHD
University of Nebraska at Omaha
Omaha, NE

An Integrative Curriculum Model: Incorporating Complementary and Alternative Medicine Within an Allopathic Curriculum

This presentation will describe a model for integrating complementary and alternative medicine (CAM) into a traditional allopathic medical school curriculum. This curricular innovation will prepare the physician of the future to practice integrative medicine by incorporating the theory, evidence, and practice of CAM into each of the undergraduate medical years. It will systematically and sequentially build student competency in CAM from beginning to more in-depth levels across the medical education curriculum.

This curriculum model includes the addition of specific units on CAM within existing courses and clerkships and adds new offerings in clinical and research electives. The delivery of course content involves CAM practitioners in the teaching and education of students and faculty. Case-based instruction, experiential learning, small-group reflective practice, field experiences, Web-based clinical consultation, and lectures are used as instructional methods.

Our experiences in building capacity for the delivery of this curriculum will be discussed. Goals for developing new student knowledge, skills, and attitudes in CAM in each of the undergraduate medical years will be outlined, along with examples of courses already implemented and those in development. We will present student course evaluation data and proposed plans for overall curriculum evaluation.

At the conclusion of this presentation, participants will be able to (a) define what is meant by an integrative medical curriculum, (b) identify effective strategies to support CAM course development at their university, and (c) design future courses in CAM based on presented models.

RITA BENN, PhD, AND
SARA WARBER, MD
CAM Research Center, University of Michigan
Ann Arbor, MI

Alternative Health Practitioner Use, Health Behavior and Health Care Utilization

The use of alternative health care practitioners has gained greater importance because of rising costs of health care and concerns that some forms of alternative therapy may be harmful to patients. Data from the 1998-1999 Canadian National Population Health Survey are used to describe factors associated with the use of alternative practitioners. The analysis is based on a subsample of 14,150 respondents aged 18 who represented 22.5 million adults. Bootstrap procedures were used to obtain precise variance estimates. Logistic regression analysis was used to model the likelihood of using alternative practitioners and the association between alternative practitioner use and selected health behavior and health care utilization outcomes. About 17% of Canadian adults (3.8 million) used alternative therapy in the past year. In an adjusted logistic regression model, female gender, ages 25 to 64, residence in western Canada, college/university education, number of chronic diseases, higher income, perceived unmet health needs, and a high index on self-care were statistically significant predictors of use. Although there were some differences in conventional health care utilization favoring higher use by alternative practitioner users, there were no instances in which users of alternative practitioners used fewer conventional health care resources. The overall use of alternative practitioners in Canada is half the rate reported in U.S. studies. This difference may be attributable to methodological differences in the definition of alternative therapy.

Learning objectives: After the session, participants will be able to (a) identify factors associated with the use of alternative practitioners and (b) describe the association between alternative practitioner use, preventive health, and health care utilization.

WAYNE J. MILLAR, MA, MSC
Statistics Canada
Ottawa, Ontario, Canada

Integrating Community Input in Designing an Acupuncture Clinical Trial

The AIDS Care Project (ACP) in Boston has been providing acupuncture and Chinese herbal medicine to people living with HIV/AIDS for more than 11 years. Although the ACP has conducted numerous observational studies, members of its consumer advocacy board requested that a study be conducted to determine whether acupuncture could effectively control digestive side effects of combination therapy. Challenges of the study included (a) determining an effective, safe, comfortable, and acceptable treatment for side-effect management; (b) selecting a study design that allowed all participants to receive effective treatment; (c) keeping the length of the study manageable and minimal for participants; and (d) implementing a comparison treatment that was not placebo. A crossover design was chosen for

this 6-week randomized, blinded study; each arm of the study consists of four points. The study began in January of 2001, and an update will be provided.

Learning objectives: The process of soliciting and effectively using community feedback is one that involves developing mutual respect and trust. Participants interested in designing clinical trials will be able to balance three critical factors: honoring traditional Chinese medicine and its practice, incorporating scientific study principles, and accessing and valuing community input.

ELIZABETH SOMMERS, MS, LAC, MPH
AIDS CARE
Boston, MA

Lessons Learned: Recruiting and Enrollment in CAM Trials

This study analyzes the number of patients screened and recruited in two contrasting alternative medicine trials. In addition, it also analyzes why patients chose not to participate in CAM trials. In a trial examining the use of an herbal product for individuals with congestive heart failure (CHF), roughly 88% of known eligible patients decided to participate in the trial and only 5% of all patients screened gave lack of interest in the trial as a reason for nonparticipation. In contrast, two recent trials (SOLVD & MERIT-HF) of patients with symptomatic CHF had lower rates of known eligible patients agreeing to participate (63%), and at least 11% of all patients screened gave lack of interest in the trial as a reason for nonparticipation. More dramatically, in a study assessing the effectiveness of a bioenergy technique in the management of chronic pain, approximately 96% of known eligible patients decided to participate in the trial compared to only 10% of known eligible patients from similar populations approached for trials at the same tertiary care facility. In the bioenergy trial, 33% of patients screened refused participation due to the distance and travel time involved, making it the primary reason for refusal. The frequency and length of visits involved in the application of a manual technique was the next most frequently stated reason for nonparticipation (31%). A small percentage of patients (< 2%) refused on the basis of their religious beliefs.

Learning objectives: The objective is to compare and contrast the unique aspects of recruiting and enrollment of patients in CAM trials compared to allopathic trials.

SUZANNA M. ZICK, ND, MPH
ELENA GILLESPIE,
KEITH AARONSON, MD, MS, AND
MARTIN STEVENS, MD
CAM Research Center, University of Michigan
Ann Arbor, MI

Integrative Medicine and the Future of Medical Practice

Integrative medicine is more than another term for complementary and alternative medicine: It is a healing-oriented approach to medicine that looks at patients as whole persons, analyzes their lifestyles, and emphasizes prevention. Although integrative medicine practitioners selectively incorporate CAM modalities into comprehensive treatment plans, integrative medicine focuses on health and healing, rather than just on disease and treatment, and emphasizes the importance of the doctor-patient relationship in the healing process. In the

United States, health care consumers' use of CAM has been increasing dramatically in recent years and has driven the growth of CAM practitioners and products. The need for training practitioners in integrative medicine has led to new academic programs. The University of Arizona Program in Integrative Medicine provides a 2-year academic fellowship that produces leaders in the field, implements research in CAM and integrative medicine, and provides continuing professional education for physicians and other health care professionals. Recently, a distributed learning program has been initiated. A Consortium of Academic Health Centers for Integrative Medicine has been formed, including several U.S. medical schools that work together to mold the direction of medical education, practice, and research.

Learning objectives: Participants will be able to define integrative medicine and how it differs from CAM and from conventional medicine, describe the recent history in the development of integrative medicine, and describe current trends in integrative medical education and research.

ANDREW WEIL, MD
LAURIE SOLOFF, ND, MPH, AND
VICTORIA MAIZES, MD
University of Arizona
Tucson, AZ

Spirituality: A Significant Factor in the Holistic Health Equation

The impact of spirituality on health and well-being cannot be ignored. Research studies in the scientific literature strongly suggest that spirituality and religious practice can help in the prevention, treatment, coping, and recovering from illness as well as promote wellness and the adoption of healthy habits and behaviors. In this presentation, the participants will examine population survey findings, epidemiologic data, and qualitative research that positively correlate faith, prayer, and spirituality in a Judeo-Christian context with physical and mental health.

Learning objectives: Participants will be able to discuss the role of spirituality in coping with disease and health challenges, articulate theoretical reasons for better "compliance" among the faith community, and cite epidemiologic evidence for improved health outcomes among spiritual and religious cohorts in the U.S. population.

ZENO CHARLES-MARCEL, MD
Lifestyle Center of America
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Differential Use of Spiritual Healing or Prayer by Race and Ethnicity

The objective of this study was to examine differences in the utilization of spiritual healing therapy or prayer among U.S. adults by race and ethnicity. We analyzed data from the 1999 National Health Interview Survey conducted among the noninstitutionalized civilian U.S. population. During face-to-face interviews, a probability sample of 30,801 people younger than age 18 were asked to indicate (from a list) their use of 13 forms of complementary and alternative medicine (CAM) in the previous year, including both practitioner administered and self-administered. Spiritual healing or prayer was the most commonly used CAM (14.0%, 95% confidence interval = 13.0-14.2%). The utilization rate of spiritual healing or prayer was highest among non-Hispanic Blacks (17.0%), followed by non-Hispanic Whites

(14.0%), people with other racial/ethnic backgrounds (11.8%), and Hispanics (8.2%) ($p < .001$). This racial/ethnic disparity remained similar when stratified by gender and region of the country. The same use pattern was also found among people with an annual income less than \$20,000, an educational level of fewer than 12 years, and younger than 55 years. Interestingly, for people who have lower annual income, have less education, or are younger than 55 years, Blacks and Whites were equally likely to use spiritual healing or prayer, although their usage rates were significantly higher than that of Hispanics and people with other racial/ethnic backgrounds. Among the groups studied, the group with the greatest overall use was Blacks, with educational levels of more than 16 years (22.6%). Our study indicates there is racial/ethnic disparity in the use of spiritual healing or prayer, a form of CAM used most frequently by more educated Blacks.

CATHERINE SIMILE, PhD, AND
HANYU NI, PhD, MPH
National Center for Health Statistics
Hyattsville, MD

Developing, Implementing and Evaluating a Spiritual Care Unit

Throughout the United States, there are seven known Emmanuel Programs. The Emmanuel Program at St. Francis Hospital enabled staff and different hospital services to team up in an environment of holistic patient care. It empowered staff to take proactive roles in being spiritually sensitive, attending to patients from a holistic “mind, body, spirit” perspective. Literature reviews support patients’ abilities to recognize when they are being holistically cared for and indicate that patients express more appreciation of such care. An established intentionality to see the program work has been essential for success. Nurses were given an opportunity to volunteer within such a program so as not to feel an additional burden placed on them in the plethora of duties already served by nursing. There were religious differences, denominational practices, male/female religious observances, and fears to spiritual care that posed barriers to this type of unit. All persons were assumed to possess a common need to be in touch with themselves, others, and with God/Divine/Creator or at least in search of these things. Religion and spirituality were seen as different entities, and Emmanuel Program staff were not pressured to be religious, spread religion, or speak religious things. The differences between religion and spirituality were emphasized for those involved within the unit. Care teams met on a regular basis to discuss both medical and spiritual needs of patients. Preliminary evaluation results indicate that the Emmanuel Unit receives higher patient satisfaction ratings than other hospital units do within St. Francis and similar regional hospitals.

Learning objectives: The objectives are (a) to identify and define the spiritual needs of patients, (b) to articulate barriers and issues in developing a spiritual care unit, and (c) to recognize the steps necessary to create, maintain, and evaluate a spiritual care unit.

HUGH D. SPITLER, PhD, MPH
Clemson University
Clemson, SC
TREY KUHNE, PhD
Emmanuel Program
Bon Secours St. Francis Hospital
Greenville, SC

**Use of CAM Among U.S. Women: Preliminary Findings
From a National Multi-Ethnic Survey**

This presentation will be based on preliminary findings from the first nationally representative survey of CAM use among women living in the United States ($N = 3,300$). Booster samples of Mexican American, Chinese American, and African American women were included in the sample design. All interviews were conducted using computer-assisted telephone interviewing by bilingual interviewers who were fluent in English and/or Spanish/Mandarin/Cantonese. The instrument was developed by the investigators using a rigorous protocol that included focus groups with ethnically diverse groups of women, a pilot survey in New York City, and a series of reviews by professionals in the CAM field. As a result, standard items used by other CAM researchers were supplemented by a number of items relevant to women's reproductive health, as well as to the cultural traditions of the largest Asian (Chinese) and Latino (Mexican) groups in the country. Formal translations and back-translations were performed with subsequent editing and revision. Two formal pretests were conducted in each language, with the investigators and/or bilingual colleagues "listening in" by phone. In the preliminary analysis, we will explore women's use of numerous categories of CAM, both samplewide and within each ethnic group. We will be able to report on remedies and treatments used for specific health conditions (including those specific to women, e.g., menopause), perceived efficacy of CAM, and costs associated with CAM use. Finally, in addition to ethnicity and acculturation variables, we will identify other sociodemographic correlates of CAM use.

Learning objectives: Participants will be able to identify the prevalence of alternative medicine use by women, specifically in different ethnic populations.

CHRISTINE WADE
FREDI KRONENBERG, AND
LINDA F. CUSHMAN, PHD
Columbia University
New York, NY

Healing Herbs for Women

Women are the primary consumers of botanical products in the United States, and women are also more likely than men are to seek medical care for their health concerns. It is essential that primary care providers, including family physicians, obstetricians and gynecologists, and nurse practitioners, among others, develop minimal competence in understanding the language of botanical medicine and develop the rapport that will allow their patients to feel safe in divulging the products they are using. This will prevent problems such as herb-drug interactions, mistaken diagnoses, and both inappropriate and inaccurate medication and herbal medicine use. This talk will briefly address the use of botanical medicines during pregnancy and menopause and how the practitioner can become more knowledgeable about and sensitive to the patient's desire to try natural remedies as part of a treatment protocol.

Learning objectives: Participants will be able to identify the benefit and advantage of herbal therapies when used safely to prevent and treat various medical conditions, in particular, those unique to women's health.

AVIVA ROMM, AHG
American Herbalists Guild
Atlanta, GA

Lifestyle Interventions in Menopause

Menopausal changes are part of the normal female life cycle. Instead of being a disease, a catastrophe, an unnatural or pathological condition, it can be an unobtrusive, important event in a continuum of a fulfilled life. With changing population demographics, 30 million American women are currently postmenopausal and can expect to spend almost one third of their lives in this state. Only 10% of these receive hormone replacement therapy. Heightened interest in the physiology of menopause has led to knowledge of established connections between hormonal changes and a host of conditions that significantly contribute to morbidity and mortality for this growing segment of the population. Among these medical conditions are an increased risk of heart disease (risk ratio 2.2), osteoporosis with subsequent pathological fractures (28 million with osteoporosis and osteopenia), vasomotor symptoms with hot flashes (67% in one study), mood swings, vaginal dryness, loss of libido, sleep disorders, urinary incontinence, and so forth. Conventional approaches to menopause have traditionally utilized exogenous hormone replacement with growing concern over the validity of this method. In contrast to these concerns, lifestyle measures already recommended from a public health perspective have numerous salutary effects that are often not placed in the context of addressing menopausal changes. The medical literature provides strong support for the theory that physical exercise, dietary and other habit interventions (including caffeine, tobacco, and alcohol use), and psychosocial and spiritual factors should be used as first-line therapies in addressing menopausal changes and improving quality of life as well as longevity.

Learning objectives: Participants will be able to describe the morbidity and mortality associated with menopausal changes, list four conditions of public health significance whose prevalence is increased by virtue of the hormonal changes associated with menopause, and provide rationale for the use of at least four different lifestyle interventions in the control of menopausal signs and symptoms.

ROBY ANN SHERMAN, MD
Wildwood Lifestyle Center and Hospital
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Herbal Certification

Since 1989, the American Herbalist Guild has provided a standard of education and ethics, as well as an admissions process for clinical herbalists. Successful completion of the admissions review process grants the credential Herbalist, AHG. This process has now been revised to a formal registry, so that successful completion grants the designation Registered Herbalist, RH. In the past 3 years, the AHG has been developing a national certification exam for herbalists and licensed health professionals who wish to demonstrate excellence in the practice of herbal medicine. The AHG and the Botanical Medicine Academy, founded by naturopathic physicians specializing in botanical medicine, seek to provide an avenue for demonstration of a postgraduate level of knowledge in phytotherapy. Successful completion of the exam will grant the designation Certified Clinical Herbalist, CCH. This brief lecture will discuss the importance of herbalist- and naturopath-led standards of training and knowl-

edge in botanical medicine and will explain how the registry and certification processes encourage a dependable standard that emphasizes clinical competence.

Learning objectives: Participants will be able to identify the importance of herbal certification in the safe use of botanical medicine.

AVIVA ROMM, AHG
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Atlanta, GA

A Complementary and Alternative Medicine Utilization Process Among Postmyocardial Infarct Patients

Presented are pilot qualitative results investigating the complementary and alternative medicine (CAM) utilization process of postmyocardial infarct (post-MI) patients, including what prompts CAM use, how patients learn about CAM, what facilitates and/or hinders CAM use, and what health outcomes are important to patients. Sixteen participants (10 men, 6 women) from a Midwestern community were recruited for group or individual interviews. Most participants pursued CAM after a health crisis—their MI—to avoid reoccurrence. Family members, written materials, and health classes were primary sources of CAM information. Most commonly noted CAM therapies were biologically based therapies (i.e., vitamins, coenzyme Q10, hawthorn) and mind-body techniques (i.e., meditation, yoga). Main barriers to CAM use included cost and availability of treatment. Primary facilitating factors included a desire to enhance cardiac health and to avoid invasive conventional procedures (i.e., surgery). Improved health, as assessed both internally (i.e., how the patient feels) and externally (i.e., medical exam), and a belief that CAM treatment was “good for you” constituted the primary outcomes influencing continued CAM utilization. Although patients mainly pursued CAM outside the allopathic relationship, physicians were sought to monitor CAM outcomes, both overtly and covertly. From these findings, five phases of CAM utilization were identified: health status, learning about CAM, seeking CAM (barriers and aids), using CAM, and assessing CAM, which comprised a complex, reciprocal process between patient and environment. Developed to assist policy makers and health practitioners, this model provides an empirical framework for assessment and intervention of CAM use among a post-MI population.

Learning objectives: The objectives are (a) to list types of CAM modalities used by post-MI patients; (b) to describe a CAM utilization process, including barriers and facilitating factors, adopted by post-MI patients; and (c) to identify access points within the CAM utilization process for public health education.

ANDREA CORAGE BADEN, MPH, AND
SARA WARBER, MD
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Complementary Care Seeking Behavior in Patients With Myasthenia Gravis

Myasthenia gravis (Mg) is a common neuromuscular disease with prevalences of 10 patients per 100,000 residents. Progress in medical therapy has continuously increased life expectancy in Mg patients. In this study, we followed the issue inasmuch as Mg patients seek complementary care. In collaboration with the German Myasthenia Association, the self-help

organization for patients, 2,150 patients were asked to work on a mailed questionnaire on their health care situation. The questions were related to demographical data, impairments, therapeutical course, use of complementary therapies, illness-related costs, and quality of life (SF-36). A total of 1,525 patients (average age = 57 years; 40 men and 60 women) participated, resulting in a response rate of 71%. More than 70% of the patients reported problems in using their arms and moving around; about 40% indicated difficulties in swallowing and ptosis. About 4% seek regular treatment by nonmedical practitioners. Nearly 25% reported spending between US\$5 and \$500 monthly for nonmedical practitioners and alternative medical therapies, especially homeopathy, vitamins, and acupuncture. Compared with Mg patients who were not spending additional money, these patients reported significantly more annual visits to their physician, and they experienced significantly decreased quality of life in all dimensions of the SF-36. The results indicate that Mg patients spent considerable amount of money for complementary medicine even in a health care system in which neurological therapy is covered by the state health insurance. It can be followed that successful managed care in Mg patients depends not only on evidence-based therapies but also on measures improving quality of life.

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Botanicals of Relevance to the Treatment of Syndrome X and Component Abnormalities

Syndrome X, also referred to as the “cardiovascular dysmetabolic syndrome” or the “polymetabolic syndrome,” refers to a constellation of findings that includes insulin resistance, high triglycerides, low HDL cholesterol, and high blood pressure. Furthermore, a number of other conditions such as diabetes and obesity often occur in association with Syndrome X.

Lifestyle intervention is considered fundamental in treating Syndrome X. However, the use of botanical preparations for Syndrome X is of increasing public health importance for a number of reasons. First, Syndrome X and component abnormalities are steadily increasing in prevalence. Second, a number of botanical preparations hold potential to modulate Syndrome X, its related risk factors, and allied conditions. Third, the prevalent and increasing use of botanicals to treat the component abnormalities of Syndrome X, alongside pharmacological treatments, increases the likelihood of herb-drug interactions. Concerns for interactions with anticoagulants are of particular relevance.

Learning objectives: The objectives are to describe at least four clinical features of Syndrome X, identify at least four botanical compounds that may modulate Syndrome X and related conditions, and discuss major concerns for herb-drug interactions when attempting to address Syndrome X with botanicals.

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ZENO L. CHARLES-MARCEL, MD
PHYLIS AUSTIN, BS, AND
TIMOTHY J. ARNOTT, MD
Lifestyle Center of America
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Outcomes of Alternative Exercise for Older Women

Falls are the most frequent cause of injury-related morbidity, mortality, and health care spending among the older population, and they constitute a major public health problem. Research indicates that impaired balance, functional mobility, and fear of falling are associated with increased risk for falling. Structured participation can improve balance and reduce the risk for falls. An alternative form of structured exercise is T'ai Chi. T'ai Chi is an ancient Chinese exercise that involves integration of the mind and body in repetitive, slow, gentle circular movements and changes in the center of gravity. Guided by Orem's self-care theory and motor learning theory, the purposes of this study were to ascertain (a) if there were improvements in preexercise to postexercise measures of balance, functional mobility, fear of falling, and self-assessed health among older women who participated in structured T'ai Chi classes for 3 months and (b) what other benefits were identified by the participants. A single-factor within-subjects design allowed the participants to serve as their own controls. Forty-five women aged 72 to 96 years completed the study. The results, based on stepwise multiple regression analysis, indicated statistically significant improvements in scores for balance ($p < .001$), functional mobility ($p < .05$), and fear of falling ($p < .001$). Self-reported benefits included reduction in pain from fibromyalgia, better blood pressure control, reduced insomnia, and decreased urinary incontinence.

Learning objectives: The objectives are (a) to describe outcomes of T'ai Chi exercise participation by older women and (b) to discuss self-reported health benefits.

HELEN M. TAGGART, DSN, RN, CS
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Alternative and Complementary Health Practices in Addiction Treatment

The Center for Substance Abuse Treatment's (CSAT's) Office of Pharmacologic and Alternative Therapies engaged the National Association of State Alcohol and Drug Administrators (NASADAD) to poll its membership and determine which state programs were aware of what healing practices were being utilized in publicly funded addiction treatment programs in each of the states. The membership of NASADAD consists of each state's top official in charge of directly administering the block grant for substance abuse prevention and treatment that goes to each state annually from CSAT, based on a congressionally determined formula. State directors were asked about all programs receiving a block grant or other public funds in their state. A surprising variety of healing practices was found to be occurring in the addiction treatment programs of many states. These findings will be presented, and their implications for policy and future CSAT programs will be discussed.

Learning objectives: Participants will be able to identify various alternative modalities used to effectively treat substance addictions.

ALAN TRACHTENBERG, MD, MPH
SAMHSA/CSAT/OPAT

LEWIS GALLANT, PhD
ROBERT E. ANDERSON, MA, AND
KATHLEEN M. NARDINI, MA
NASADAD

A Description of a Navajo Healing Ceremony for Hantavirus

Traditional Navajo healers have preserved a detailed knowledge of hantavirus that predates the Western discovery of Sin Nombre Hantavirus in 1993 by a substantial period of time. One Navajo medicine man, Mr. Andy Natonobah, has described a ceremony that has been passed down for generations in his family of traditional healers for curing Hantavirus Pulmonary Syndrome. This ceremony entails the use of several herbal medicines that have known inotropic properties in very high dosages. The herbal medicines are titrated in response to the patients' respiratory status for up to 4 days, with the goal of delivering the maximum amount of medicines without achieving drug toxicity until the patient recovers. This mirrors the function of a modern intensive care unit in that respect. The Navajo, however, use this curing ceremony to integrate their holistic view of uniting the patient with the universe in achieving this cure.

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Cancer CAM: Online Continuing Education for Nurses About CAM for Prostate Cancer Patients

Nurses increasingly are asked to advise cancer patients interested in supplementing conventional treatments with complementary and alternative medicine (CAM). The cancer CAM series of online continuing education programs offer nurses convenient and accessible continuing education related to understanding, evaluating, and communicating about CAM in their practice. The first module focuses on prostate cancer patients and use of complementary and alternative treatments. The learning package includes text-based online instruction with links for optional exploration of topic-related Web sites and nursing and patient education tips. Eight printable resources include a book list, patient instructions on finding support groups, summaries of herbs and CAM options for managing prostate cancer symptoms and side effects, and a list of all Web sites hyperlinked within the text. Upon completion, a posttest is taken and the nurse is notified by e-mail of her or his score. These courses can improve a nurse's knowledge, communication skills, and self-efficacy regarding communicating about CAM to patients and other health care providers. Pilot test nurses showed a significant increase pretest to posttest ($t = 4.679, p = .009$) in nurses' confidence to teach patients the importance of disclosing CAM use, integrating a healthy lifestyle change into their treatment plan, selecting a CAM provider, using mind-body techniques to alleviate stress and reduce anxiety, exploring the types and uses of soy products, and explaining to physicians why prostate cancer patients use CAM and their most common uses of CAM.

Learning objectives: (a) Attendees will understand how online interactive continuing educational can provide review of online research information and other resources and

patient-related information. (b) Attendees will understand the use of a model for presenting CAM-related information to practicing nurses.

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Herbal Supplements: What Health Care Practitioners and Consumers Need to Know

According to the National Institutes of Health–National Center for Complementary and Alternative Medicine (NIH-NCCAM), the number of Americans using alternative medications increased from 33% in 1990 to approximately 42% in 1997. More important, herbal supplements are gaining greater acceptance as the natural alternative to standard pharmacological regimens. Although inadequate data exist concerning drug-drug interactions between supplements and prescription drugs or over-the-counter medications, recent studies identify several herbal products that do interfere with the efficacy of certain drugs such as anticoagulants, cyclosporine, digoxin, antidepressants, and antiretroviral agents. Misconceptions regarding safety and efficacy of these agents are common. The idea that *natural* is synonymous with *safety* has led many to use herbal supplements in lieu of prescription medications and to delay seeking traditional intervention. Hence, herbal usage across various patient populations as well as underserved and ethnic populations (particularly those that are less likely to receive medical attention) may greatly affect the quality of health care among these aforementioned groups. Herbal supplement use may be especially problematic in the elderly because this group tends to use numerous prescription medications, and often elderly patients do not inform health care providers that they are using alternative medications.

Learning objectives: Participants will be able to identify the effects of various herbs currently marketed for specific ailments, the potential risks or benefits of these herbs, and scientific reference resources available to both consumers and health care providers.

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