Traditionally, Western or conventional therapies for diabetes have been geared toward regulating blood glucose with a combination of diet modification, insulin and/or oral pharmacological agents, weight loss when appropriate, and exercise. Although Western medicine and Traditional Chinese medicine (TCM) share the diabetes treatment goals of reducing symptoms and preventing complications, their approaches to conceptualizing, diagnosing, and treating the disease are very different. This article will outline the key concepts and therapies of TCM that play a role in the evaluation and treatment of diabetic patients.

Traditional Chinese Medicine

TCM is a system of healing that originated thousands of years ago. It has evolved into a well-developed, coherent system of medicine that uses several modalities to treat and prevent illness. The most commonly employed therapeutic methods in TCM include acupuncture/moxibustion, Chinese herbal medicine, diet therapy, mind/body exercises (Qigong and Tai Chi), and Tuina (Chinese massage).

TCM views the human body and its functioning in a holistic way. From this perspective, no single body part or symptom can be understood apart from its relation to the whole. Unlike Western medicine, which seeks to uncover a distinct entity or causative factor for a particular illness, TCM looks at patterns of disharmony, which include all presenting signs and symptoms as well as patients’ emotional and psychological responses. Humans are viewed both as a reflection of and as an integral part of nature, and health results from maintaining harmony and balance within the body and between the body and nature.

Two basic TCM theories explain and describe phenomena in nature, including human beings: Yin-Yang Theory and the Five Phases Theory or Five Element Theory. Yin and Yang are complementary opposites used to describe how things function in relation to each other and to the universe. They are interdependent—one cannot exist without the other, and they have the ability to transform into each other. The traditional Yin-Yang symbol (Figure 1)
Within the model of Five Phases, each element is associated with an organ. Wood is associated with the liver, fire with the heart, earth with the spleen-pancreas-stomach, metal with the lungs, and water with the kidneys. In addition, other phenomena, such as seasons, cardinal directions, weather, color, and emotions, are associated with each element. Within the TCM model, diagnostic information is gained by finding out patients’ favorite season, color, and predominant emotion(s).

**Key Concepts Within TCM**

**Qi**

Qi (pronounced “chi”) is translated into English as vital energy. It is defined in terms of function rather than as a discrete substance, and it is what animates us and allows us to move and maintain the activities of life. The origins of Qi include “congenital” (prenatal) Qi—that which is inherited from our parents—and “acquired” Qi—that which is incorporated from food and air.4

Two major patterns of disharmony are associated with Qi. Deficient Qi occurs when there is insufficient Qi to perform the functions of life. Deficient Qi may affect one or more organs or the entire body. If the latter occurs, then the patient may experience lethargy, fatigue, and lack of desire to move. Stagnant Qi refers to impairment of the normal movement of Qi through the meridians (see discussion below) and may result in aches and pains in the body.4

**Blood**

Blood is the essential components of life.5 According to TCM, the major activity of the blood is to circulate through the body, nourishing and moistening the various organs and tissues. Disharmonies of the blood may manifest as “deficient” blood or “congealed” blood. If deficient blood exists and affects the entire body, the patient may present with dry skin, dizziness, and a dull complexion. Congealed blood may manifest as sharp, stabbing pains accompanied by tumors, cysts,
or swelling of the organs (i.e., the liver). The key organs associated with blood are the heart, liver, and spleen.

**Fluids**
Fluids are bodily liquids other than blood and include saliva, sweat, urine, tears, and semen. Fluids act to moisten both the exterior (skin and hair) and the internal organs. Disharmonies of fluids may result in dryness and excess heat. The key organs involved in the formation, distribution, and excretion of fluids are the lungs, spleen, and kidneys.

**Diagnosis in TCM**
When evaluating patients with a chronic illness such as diabetes, TCM practitioners take a detailed, multi-system case history and supplement this information with observations that give information about the state of the patient’s health. These observations include the shape, color, and coating of the tongue; the color and expression of the face; the odor of the breath and body; and the strength, rhythm, and quality of the pulse. Many practitioners will palpate along meridians to detect points of tenderness that may indicate a blockage in the flow of Qi at that point.

One of the most common ways of differentiating symptoms and syndromes in TCM is according to the Eight Principles—four pairs of polar opposites: Yin and Yang, Interior and Exterior, Cold and Heat, and Deficiency and Excess. Characteristics of the Eight Principles are summarized in Tables 1 and 2.

**TCM Classification of Diabetes**
The Chinese language includes two terms for diabetes. The traditional name, Xiao-ke, correlates closely with diabetes in most instances. Xiao-ke syndrome means “wasting and thirsting.” The more modern term, Tangniao-bing, means “sugar urine illness.” Reference to diabetes by the traditional term appears in the earliest texts, including the first medical text in Chinese history, Huang Di Nei Jing, or The Yellow Emperor’s Inner Classic.

Diabetes is classically divided into three types: upper, middle, and lower Xiao-ke. Each has characteristic symptoms. The upper type is characterized by excessive thirst, the middle by excessive hunger, and the lower by excessive urination. These types are closely associated with the lungs, stomach, and kidneys, respectively, and all three are associated with Yin deficiency. At some point during the course of their illness, most people with diabetes manifest symptoms of all three types.

According to TCM, Xiao-ke is attributed to three main factors: improper diet (consuming large quantities of sweets, fatty or greasy foods, alcohol, and hot drinks such as coffee or tea), emotional disturbances (stress, anxiety, depression,) and a constitutional Yin deficiency (fatigue, weakness, lethargy, pale complexion). To the Western ear, TCM diagnoses sound esoteric, even poetic. In the case of a person with diabetes presenting with symptoms of excessive thirst, the diagnosis can be described as kidney Yin deficiency along with lung Yin deficiency and “internal heat that consumes fluids, thus bringing on wasting and thirsting.”

**TCM Therapies**
Unlike Western medicine, TCM is not concerned with measuring and monitoring blood glucose levels in diabetic patients. Treatment is individualized and geared toward assessing and treating the symptoms that compose patterns of deficiency and disharmony.

**Acupuncture/moxibustion**
Acupuncture and moxibustion traditionally have been used in the treatment of diabetes to reduce blood glucose levels and normalize endocrine function. One of the most common ways of delivering point information is diagnosis in TCM.

**Table 1. Summary of TCM Main Excess/Deficiency and Heat/Cold Signs**

<table>
<thead>
<tr>
<th>General Signs</th>
<th>Tongue</th>
<th>Pulse</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Excess pattern</strong></td>
<td>Ponderous, heavy movement; heavy, coarse respiration; pressure and touch increase discomfort</td>
<td>thick moss</td>
</tr>
<tr>
<td><strong>Deficiency patterns</strong></td>
<td>Frail, weak movement; tiredness; shortness of breath; pressure relieves discomfort; inactive; passive appearance; low voice; dizziness; little appetite</td>
<td>pale material; thin moss</td>
</tr>
<tr>
<td><strong>Heat patterns</strong></td>
<td>Red face; high fever; dislike of heat; cold reduces discomfort; rapid movement; outgoing manner; thirst or desire for cold drinks; dark urine; constipation</td>
<td>red material; yellow moss</td>
</tr>
<tr>
<td><strong>Cold patterns</strong></td>
<td>Pale, white face; limbs cold; fear of cold; heat reduces discomfort; slow movement; withdrawn manner; no thirst, or a desire for hot drinks; clear urine; watery stool</td>
<td>pale material; white moss</td>
</tr>
</tbody>
</table>

**Table 2. Signs of Yin and Yang Patterns**

<table>
<thead>
<tr>
<th>Examination</th>
<th>Yin Signs</th>
<th>Yang Signs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Looking</strong></td>
<td>quiet; withdrawn; slow, frail manner; patient is tired and weak, likes to lie down curled up; no spirit; excretions and secretions are watery and thin; tongue material is pale, puffy and moist; tongue moss is thin and white</td>
<td>agitated, restless, active manner; rapid, forceful movement; red face; patient likes to stretch when lying down; tongue material is red or scarlet, and dry; tongue moss is yellow and thick</td>
</tr>
<tr>
<td><strong>Listening and Smelling</strong></td>
<td>voice is low and without strength; few words; respiration is shallow and weak; shortness of breath; acid odor</td>
<td>voice is coarse, rough, and strong; patient is talkative; respiration is full and deep; putrid odor</td>
</tr>
<tr>
<td><strong>Asking</strong></td>
<td>feels cold; reduced appetite; no taste in mouth; desires warmth and touch; copious and clear urine; pressure relieves discomfort; scanty pale menses</td>
<td>patient feels hot; dislikes heat or touch; constipation; scanty, dark urine; dry mouth; thirst</td>
</tr>
<tr>
<td><strong>Touching</strong></td>
<td>frail, minute, thin, empty, or otherwise weak pulse</td>
<td>full, rapid, slippery, wiry, floating, or otherwise strong pulse</td>
</tr>
</tbody>
</table>
function. Clinical and experimental studies have demonstrated that acupuncture has a beneficial effect on lowering serum glucose levels.6,9 A typical acupuncture treatment involves needling 4-12 points and allowing the needles to remain in place for ~10-30 min. Needles may be stimulated manually or by using a small electrical current. In addition, the practitioner may warn the points with moxibustion.

The number of treatments for chronic conditions such as diabetes ranges from 6 to 14 sessions. This may be followed by “tune up” sessions every 2-6 months. The cost for the initial session is about $75-$150, with the follow-up visits costing $65-$100 each. Third-party payment for complementary and alternative therapies varies from state to state. Some insurers, such as Blue Cross Blue Shield, cover certain therapies for specific diagnoses only, i.e., acupuncture for pain-related diagnoses. For an additional cost, a few insurance companies offer a separate complementary medicine package that allows the insured to see complementary medicine practitioners at a discounted rate.

Auricular acupuncture (inserting needles into specific points on the ear) may be used alone or in conjunction with body acupuncture. According to TCM, the entire body is represented on the ear. Examination of the ears often reveals surface irregularities, such as superficial capillaries, scars, pitting, pimpls, flaking, discoloration, or swelling. Upon probing the auricle of the ear with a rounded, blunt instrument the practitioner may discover tender areas that may correspond to the area of the patient’s pain or disturbance.10 A sample auricular treatment for diabetes might include needling a master point, for example, Shen M en (a good point for almost all disorders), along with the endocrine point, lung point (for thirst), stomach point (for hunger), kidney and bladder points (for frequent urination), and pancreas point (for increasing insulin secretion).7

Peripheral neuropathy, one of the most common complications of type 2 diabetes, occurs most often in the distal extremities and typically affects the sensory, motor, and autonomic systems. Acupuncture has been demonstrated to exert a beneficial effect on neuropathic pain.5 The effects of acupuncture, particularly on pain, are mediated in part by the release of endogenous opioids from the spinal cord, brainstem, and hypothalamus. In addition, it has been demonstrated that neurotransmitters, such as serotonin and substance P, are released during acupuncture treatments. Increases in local blood flow and vasodilation and increased levels of cortisol have also been demonstrated.10 A 300% increase in plethysmographic recordings of blood flow has been demonstrated in the digits of limbs stimulated with electroacupuncture.10

A recent study of 46 patients with painful peripheral neuropathy evaluated acupuncture analgesia to determine its short- and long-term efficacy. Using TCM acupuncture points, 34 patients (77%) experienced significant improvement in their symptoms. After a follow-up period of 18-52 weeks, 67% were able to stop or significantly reduce their pain medications. Only 8 (24%) required additional acupuncture treatment; 7 (21%) stated that their symptoms had cleared completely.11

A randomized, sham-controlled, crossover study of 50 adults with type 2 diabetes evaluated the effectiveness of Percutaneous Nerve Stimulation (PENS) therapy in the treatment of neuropathic pain. PENS is a modern adaptation of acupuncture that uses percutaneously placed acupuncture needles to stimulate peripheral sensory and motor nerves innervating the region of neuropathic pain. The results showed that active PENS treatment improved neuropathic pain symptoms in all patients. In addition to reducing pain, the treatment improved physical activity levels, sense of well-being, and quality of sleep and reduced oral non-opioid analgesic medication requirements.2 Because of poor peripheral circulation and slowed healing of skin infections and ulcerations, needling of the lower extremities in diabetic patients should be performed with extreme caution and sterile technique. In general, however, acupuncture appears to be a relatively safe form of treatment. An extensive worldwide literature search identified only 193 adverse events (including relatively minor events, such as bruising and dizziness) over a 15-year period. There have been approximately 86 reported cases of hepatitis B and 1 case of HIV transmission. In all of these cases, nondisposable needles were used.6

**Herbal medicine**

Herbal medicine has been an integral part of TCM for more than 2,000 years. Many herbal formulations have been developed and are used in the treatment of diabetes. The Huang Di Nei Jing (Yellow Emperor’s Inner Classic), which dates from the Han Dynasty 206 B.C.-220 A.D., listed 13 herbal formulations, 9 of which were patent medicines including pills, powders, plasters, and tinctures.11 The sources of Chinese remedies are varied and include plants, minerals, and animal parts.3 Chinese herbs have specific functions (i.e., warming, heat-clearing, eliminating dampness, and cooling) and can be classified according to those functions. They are also classified according to four natures (cool, cold, warm, and hot) and five tastes (sweet, pungent, bitter, sour, and salty).8 Herbs may be prescribed individually or as part of a formula.

Formulas promote the effective use of herbs.3 A typical formula has four components, including:

1. The Chief (principal) ingredient, which treats the principal pattern of disease,
2. The Deputy (associate) ingredient, which assists the Chief ingredient in treating the major syndrome or serves as the main ingredient against a coexisting syndrome,
3. The Assistant (adjunct) ingredient, which enhances the effect of the Chief ingredient, moderates or eliminates the toxicity of the Chief or Deputy ingredients, or can have the opposite function of the Chief ingredient to produce supplementing effects, and
4. The Envoy (guide) ingredient, which focuses the actions of the formula on a certain meridian or area of the body or harmonizes and integrates the actions of the other ingredients.3

Herbal prescriptions for diabetes are formulated or prescribed based on the patient’s predominant symptoms. For instance, a patient presenting primarily with excessive thirst (lungs Yin deficiency) might be given a single herb, such as radix panacis quinquefolii; or a combination of herbs in a patent formulation such as yu chuan wan, which is used in general to treat diabetes of mild to moderate severity and specifically to treat excessive thirst due to Yin deficiency.12 and ba wei di huang tang (“eight-ingredient...
Diet therapy

According to TCM, diet plays an important role in maintaining health and treating disease. In the TCM paradigm, foods are valued and prescribed for their energetic and therapeu tic properties rather than solely for their chemical makeup. Attention is paid to the quantity, quality, method of preparation, and time of food intake, as well as to the patient’s body type, age, vitality; geographic location; and seasonal influences.

Because TCM defines diabetes as a disease characterized by Yin deficiency and excess internal heat, an example of a dietary prescription would be to consume spinach, which is cooling, “strengthens all the organs, lubricates the intestines, and promotes urination.” A recommendation might be to boil tea from spinach and drink 1 cup three times/day. Other foods considered to be cooling and beneficial for diabetes include vegetables and grains, such as celery, pumpkin, soybeans (i.e., tofu, soymilk), string beans, sweet potato/yam, turnips, tomato, wheat bran, and millet. Fruit remedies, which act in specific therapeutic ways, include crab apple, guava, plum, strawberry, and mulberry.

As always, in seeking to integrate different traditions and forms of healing, we are seeking to offer patients the safest, most effective care possible. Remaining open to alternative forms of care and educating ourselves about the safety and efficacy of these modalities can benefit us all.


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