



## Complementary and Alternative Medicine May Reduce Risk of Some Diseases

Despite the power and promise of modern medicine, large segments of the world's population cannot or do not reap its benefits. More than 80 percent of people in developing countries cannot afford the most basic medical procedures, drugs, and vaccines. Among wealthier populations in both developed and developing countries, complementary and alternative practices are popular although proof of their safety and effectiveness is modest.

Complementary and alternative practices are adjuncts or alternatives to Western medical approaches. These alternative practices are different from what is known as *scientific* or *Western* medicine approaches that emerged primarily in industrialized countries during the past two centuries. Most complementary and alternative practices evolved with indigenous peoples and spread through migration. Complementary and alternative medicine (CAM) is also called traditional medicine.

### Complementary and Alternative Medicine Approaches

The U.S. National Institutes of Health have categorized complementary and alternative medicine into five types:

- **Biologically based practices.** These include vitamin and mineral supplements, natural products derived from animals, plants (such as ginkgo biloba or echinacea), and unconventional diets.
- **Manipulative and body-based approaches.** They include massage therapy and chiropractic medicine.
- **Mind-body medicine.** This includes spiritual, meditative, and relaxation techniques.

- **Energy medicine.** This includes biofield- or bioelectromagnetic-based interventions, such as Reiki.
- **Alternative medical systems.** They include acupuncture, traditional Chinese medicine, homeopathic medicine, and Ayurveda.

These areas overlap to some degree and alternative medical systems use elements from many of them. Traditional Chinese medicine incorporates acupuncture, herbal medicines, special diets, and meditative exercises, such as *tai chi*. Ayurveda in India similarly uses the meditative exercises of yoga, purifying diets, and natural products. In the West, homeopathic and naturopathic medicine arose in the late 19<sup>th</sup> century as a reaction to the largely ineffectual and toxic conventional approaches of the day, such as purging, bleeding, and treatment with heavy metals such as mercury and arsenic.

CAM approaches vary widely between and within countries, according to the World Health Organization (see Table). In developing countries, CAM is the main source of health care for the majority of people. In developed countries, people selectively use these approaches: up to 60 percent of French, German, and British use homeopathic or herbal products, whereas only 1 to 2 percent of Americans use homeopathy, but up to 10 percent use herbals. More than 8 percent of Americans visit chiropractors.<sup>1</sup> For patients in developed countries with chronic, painful, debilitating, or fatal conditions, such as HIV/AIDS and cancer, use of CAM approaches is much higher, ranging from 50 to 90 percent.<sup>2</sup>

**ESTIMATED USE OF COMPLEMENTARY, ALTERNATIVE, AND TRADITIONAL MEDICINE BY PATIENTS AND PRACTITIONERS WORLDWIDE, 2002**

Region or Country	Extent of Use
Africa	Used by 80 percent of the population for primary health care
Australia	Used by 49 percent of adults
China	Accounts for 30 to 50 percent of total health care Fully integrated into the health system 95 percent of Chinese hospitals have Traditional Medicine (TM) units
India	Widely used 2,869 hospitals provide TM
Indonesia	Used by 40 percent of the total population Used by 70 percent of the rural population
Japan	72 percent of physicians practice TM
Thailand	TM integrated into 1,120 health centers
Vietnam	Fully integrated into the health care system 30 percent of the population is treated with TM
Western countries	CAM and TM not strongly integrated into the health care system
	France: at least 75 percent of the population has used CAM at least once
	Germany: 77 percent of pain clinics provide acupuncture
	United States: 29 to 42 percent of the population uses CAM

Source: World Health Organization, 2002.

Despite widespread use, scant scientific evidence confirms the safety or effectiveness of most complementary or alternative approaches. For example, in the United States, herbals are regulated by the U.S. Food and Drug Administration as “dietary supplements,” rather than as a “food or drug.” As a result of this labeling, they are regulated by less stringent standards. Herbals are highly variable in quality and composition and may contain unintended contaminants, such as heavy metals. Some research shows the harmful effects of herbals. Comfrey and kava have been associated with liver failure.<sup>3</sup> Ephedra has been linked to heart attacks and strokes.<sup>4</sup> Herbals, such as St. John’s wort, can contain ingredients that accelerate or inhibit the metabolism of prescription drugs.<sup>5</sup> Some herbals are banned in certain countries because of these ill effects.

Evidence of the effectiveness of some complementary and alternative approaches is beginning to demonstrate small, and highly encouraging, positive results. The potential of CAM, coupled with their already widespread use, encouraged the initiation in 1998, of the National Center for Complementary and Alternative Medicine (NCCAM) of the U.S. National Institutes of Health.

**Economic Factors Influence User Behavior**

Although social, cultural, and medical reasons account for most of the appeal of CAM approaches, economic factors also play a role. It is assumed that users of these approaches choose them because they are cheaper than conventional medical care. However, several studies have found that CAM approaches cost the same or more than conventional treatments for the same conditions; thus people seek them out for reasons other than cost.<sup>6</sup> At least one study showed that financial factors ranked behind such reasons as confidence in the treatment, ease of access, and convenience, in the choice a traditional healer.<sup>7</sup> Studies in Kenya and Zimbabwe showed that the cost of a traditional healer was greater than the charge at a health facility—in Zimbabwe, the cost was Z\$23 per visit for a herbalist, compared to Z\$1 to visit a government clinic. Outcomes were better at the clinic: 67 percent reported good outcomes compared to 50 percent who consulted an herbalist.<sup>8</sup>

Another common misconception is that the poor are more likely to use traditional medicine, but this is not always true. Another study from Zimbabwe showed that the mean

monthly income of households visiting an herbalist was higher than the mean monthly income of households using government clinics.<sup>9</sup> Moreover, fees charged by a traditional herbalist may be negotiable, the method of payment flexible, and payment may depend on outcome.

Patients tend to seek care from traditional healers for conditions such as mental illness, impotence, and chronic disorders, which they perceive as requiring greater involvement by the extended family and kinship group. In these cases, financial support from family members is often greater than for illnesses such as malaria or diarrhea, for which patients more often seek conventional treatment.

Some patients seek CAM techniques because they believe the side effects will be lower. In both developed and developing countries, users of complementary methods also commonly seek conventional care. One study showed that patients are likely to use more than one type of provider.<sup>10</sup> And the choice of provider depends on patients' illness, type and severity of condition, socioeconomic status, and education. If a first visit to one kind of provider does not yield positive results, a follow-up visit is made to another type of provider. Quality of care, including efficiency of service and waiting time, is an important factor in whether patients choose to go to traditional healers.

More broadly, some research has shown that the use of CAM practices does not reduce the overall costs of health care. However, one study in Peru found that complementary medicine was 53 percent to 63 percent less expensive than conventional medicine for achieving equivalent levels of effectiveness, and was especially cost-effective for osteoarthritis, hypertension, facial paralysis, and peptic ulcers.

## Expanding the Use of Complementary and Alternative Methods

Some evidence of cost-effectiveness is available for specific forms of complementary and alternative practice. Scattered studies show evidence that:

- Acupuncture for musculoskeletal conditions costs roughly 60 percent less than the cost of referral to a Western practitioner.<sup>11</sup>
- Homeopathic drugs are cheaper than conventional drugs in the United Kingdom.<sup>12</sup>
- Expenditures for Ayurveda are 50 percent lower per person than conventional medicine.<sup>13</sup>

- Chiropractic medicine costs 24 percent less than Western pain therapy yet has better results.<sup>14</sup>

Despite the uncertainty about the safety, effectiveness, and cost-effectiveness of CAM methods, expanding their use, where reasonable evidence of their effectiveness and good evidence of their safety exists, might yield health, social, and economic benefits. For example, improving the information and services provided in local pharmacies, that are the primary source of treatment for many ailments in rural areas, might serve as an effective substitute for allowing unregulated use of conventional medical treatment. Training traditional healers is less expensive than training doctors or nurses, and could be useful if they were recruited into a more broad-based system for delivering public health programs, such as immunization and maternal-child health. However, few countries rigorously regulate CAM, and research and training in these approaches are generally weak worldwide. Thus, expanding CAM would require significant investment of time and resources if it is to be done appropriately and have an impact on population health.

In Africa, nearly 85 percent of the population uses traditional medicine, which is often the only way to obtain primary health care. Improving the quality and consistency of traditional medicine could reduce the cost of health care delivery, especially for chronic conditions such as arthritic pain and HIV/AIDS, where such interventions might improve patients' sense of well-being, appetite, and energy. Since so many people use traditional medicine in developing countries, the availability, safety, and affordability of traditional medicine should be ensured as a matter of equity.

Some success stories show where approaches discovered or used in the developing world have been adopted in the West, with or without modification, and vice versa:

- Artemisinin, developed from the Chinese plant *Artemisia*, has been used for centuries to treat fever and is effective against malaria;
- Acupuncture has been shown to be highly effective in managing postoperative nausea as well as reducing the pain of chronic osteoarthritis;
- Chiropractic medicine has become increasingly accepted by the medical community and has proven better for lower back pain than bed rest, physical therapy, or instruction in back care;
- Homeopathy is widely used with reported effectiveness for treating influenza, allergies, and postoperative obstruction of the bowels;

- Mind-body interventions have been shown to increase the survival time for breast cancer patients, reduce depression and anxiety, and improve coping skills.

Priority areas for complementary and alternative medicine research include studies of interventions to reduce chronic pain, relieve depression, address substance addictions, and slow the progression of degenerative disorders like arthritis and dementia.

An important role exists for CAM. However, more evidence is needed before CAM approaches can be broadly integrated into national health systems for diseases for which they have promise.

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