

Evaluating the Role of Alternative Medicines – A Critical Review of Therapies and Research

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Abstract

Alternative medicine encompasses healthcare practices outside conventional medicine, including acupuncture, homeopathy, naturopathy, herbal medicine, yoga, and more. Despite growing popularity, alternative therapies often lack rigorous proof of effectiveness and long-term safety. This review examines various branches of alternative medicine, their benefits, and challenges. The paper discusses Ayurveda, homeopathy, acupuncture, naturopathy, herbal medicines, mind-body therapies, and manipulative and body-based therapies. It highlights the pros and cons of alternative medicine, including holistic approaches, patient empowerment, and reduced side effects, but also notes concerns scientific evidence, regulation, and potential interactions with conventional treatments. The review explores the application of alternative medicine in managing various diseases, such as diabetes, inflammation, cancer, asthma, cardiovascular diseases, anxiety, sleep disorders, menopause, and autism spectrum disorder. Finally, it addresses current market trends, safety and regulatory issues, and challenges facing alternative medicine, emphasizing the need for comprehensive research, training, and integration into modern healthcare.

Keywords: Alternative medicine, Ayurveda, homeopathy, acupuncture naturopathy, herbal

INTRODUCTION

Alternative medicine refers to healthcare practices that aren't part of conventional medicine, like allopathic medicine (the standard medical practice). This includes treatments, such as homeopathy, acupuncture, naturopathy, herbal medicine, yoga, and more. Many people choose these therapies not necessarily out of dissatisfaction with traditional medicine, but because they align better with their personal beliefs and values about health [1].

Courses in alternative medicine are often referred to as complementary medicine, and some private

health insurance plans now cover these treatments. While alternative therapies are becoming more popular, they often don't have the same rigorous proof of effectiveness or long-term safety as conventional treatments. In countries like Canada, many people use alternative medicine, often consulting both doctors and alternative practitioners for their health needs. Overall, the rise in alternative medicine reflects a growing public interest in diverse healthcare options. Alternative medicine includes various healing practices that aren't usually part of Western medical training. This can involve ancient techniques like acupuncture and Tai Chi, herbal remedies, Reiki, chiropractic care, and more [2].

The term "alternative medicine" came about in the 1800s to describe these methods as different

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from allopathic medicine, which is what we typically think of as western medicine. Allopathic medicine focuses on treating specific symptoms, often with drugs or surgeries, while alternative medicine takes a more holistic approach, aiming to help the whole body heal itself [3].

Historically, allopathic practices were based on treating with opposites, while alternative approaches often used the idea that “like cures like.” Today, there’s still a debate over which methods are more effective or safe, with both sides having some evidence supporting their practices [4].

Recently, more doctors are blending these two approaches in what’s called integrative medicine. This means they use both alternative and allopathic methods based on what works best for the patient. There are also more studies being done to explore the benefits of alternative medicine scientifically [5].

BACKGROUND

The growing interest in complementary and alternative medicine (CAM) is seen in both the public and scientific communities, with more research articles being published about its effectiveness. However, there are concerns about how the results of this research are shared with healthcare professionals and the public. Some studies suggest there may be biases in publishing results for both traditional medicine and CAM [6].

Homeopathy, a popular yet controversial form of CAM, has had various studies conducted on it, though the quality of these studies can vary. Despite its popularity, homeopathy faces skepticism from the medical community, especially in North America. This makes it an interesting subject for research on how CAM is represented in scientific literature [7].

Understanding the differences in how conventional and CAM-focused journals present research is important. This is particularly true for homeopathy, as opinions about it can range widely. Striving for a balanced perspective is essential, given the scientific, emotional, and political implications surrounding this topic [8].

BRANCHES OF ALTERNATIVE MEDICINES

Ayurveda

Ayurveda is an ancient Indian system of health that means “the science of life.” It teaches that to be healthy, we need to balance our mind, body, and spirit. According to Ayurveda, everything in the universe, including us, is made up of five elements: space, air, fire, water, and earth. These elements combine to form three energies called doshas: Vata, Pitta, and Kapha [9].

Each person has a unique mix of these doshas, which influence their health and personality. When someone gets sick, it usually means their doshas are out of balance. Ayurveda aims to restore this balance through diet, lifestyle, and natural remedies, helping people stay healthy and feel their best. Many other natural healing practices also follow ideas from Ayurveda [10].

Homeopathy

Homeopathy is a holistic healing method developed by German physician Samuel Hahnemann in 1810. It operates on two main principles [11, 12]:

1. *“Like Cures Like”*: This means that a substance causing certain symptoms in a healthy person can help treat similar symptoms in a sick person.
2. *Dilution and succussion*: Homeopathic remedies are diluted many times, and shaken, which practitioners believe retains their healing properties, even when diluted beyond the point where any molecules of the original substance remain.

Homeopathy is primarily composed of herbal substances (over 80%), salts (10–15%), and animal products (about 5%). Recognized as a form of medicine by the FDA in 1938, it is considered effective,

safe, and cost-effective. Many countries, including Switzerland, Germany, and France, support its use through health insurance [13].

Despite criticism regarding its scientific basis, some studies suggest homeopathy may help improve patients' conditions, particularly for allergies and respiratory issues. Research has indicated that it can reduce disease severity and improve the quality of life for various ailments.

In summary, while homeopathy remains controversial, many people worldwide utilize it for common health issues, finding relief for conditions, such as chronic pain, digestive disorders, and stress-related ailments [14].

Acupuncture

What is Acupuncture?

Acupuncture is a treatment that involves inserting thin needles into specific points on the body. The term comes from Latin, where "acus" means needle and "puncture" means to puncture. It has been practiced for over 3,000 years, originating in China, and is now popular worldwide [15].

How Does It Work?

In traditional Chinese medicine (TCM), acupuncture is believed to balance two opposing forces: yin (nurturing, cool) and yang (active, hot). The flow of energy, known as Qi (pronounced "chee"), is essential for health. Acupuncture stimulates points on the body that are connected to these energy pathways, called meridians [16].

Types of Techniques

While needles are the most common method, acupuncture can also include techniques like:

- *Cupping*: Using suction cups on the skin.
- *Moxibustion*: Burning herbs on or near the skin.
- *Electro-acupuncture*: Using electrical currents at acupuncture points.

Why Do People Use Acupuncture?

Many individuals turn to acupuncture for various health issues, especially for pain that doesn't respond to other treatments. The World Health Organization recognizes acupuncture's effectiveness for more than 40 conditions, including:

- *Respiratory issues*: Such as sinusitis and asthma.
- *Digestive problems*: Like chronic gastritis and constipation.
- *Neurological disorders*: Including headaches and migraines.
- *Musculoskeletal pain*: Such as back pain and arthritis.

Skepticism and Research

Some critics argue that acupuncture's benefits might be due to the placebo effect, as the energy pathways (Qi) cannot be directly observed. However, studies have shown that acupuncture can activate certain areas of the brain, suggesting it may have real effects [17, 18].

Growing Acceptance

Acupuncture has become increasingly accepted in the United States, particularly for chronic pain. Many people seek it out due to its long history, perceived safety, and reports of effectiveness. Healthcare providers are encouraged to learn about acupuncture and how to refer patients to qualified practitioners. In summary, acupuncture is an ancient practice that many people find helpful for a range of health issues, combining traditional knowledge with a modern understanding of health and wellness [19, 20].

Naturopathy

Naturopathic medicine is a unique approach to healthcare that combines traditional healing practices

with modern scientific research. It focuses on diagnosing, treating, and preventing illnesses while respecting the body's natural ability to heal itself. Here are the key principles of naturopathic medicine [21–25]:

1. *Healing power of nature*: Naturopathy believes in the body's innate ability to heal when given the right support.
2. *Identify and treat causes*: Naturopathic doctors (NDs) look for the root causes of health issues instead of just treating symptoms.
3. *First do not harm*: NDs start with gentle treatments and escalate only if necessary.
4. *Doctor as teacher*: NDs educate and involve patients in their healing process, fostering a strong doctor-patient relationship.
5. *Treat the whole person*: This approach considers all aspects of a person's health – physical, mental, emotional, social, and spiritual.
6. *Prevention*: Emphasizing overall wellness, naturopathy focuses on preventing disease rather than just treating it.

Naturopathic physicians use various methods like nutrition, herbal medicine, physical therapies, and sometimes minor surgeries to support health. They pay special attention to diet, recommending a balanced intake of whole foods, fruits, and vegetables [26].

Yoga is another complementary health practice. It includes physical postures, breathing exercises, and meditation to enhance both mental and physical well-being. Different styles of yoga, such as Hatha and Iyengar, focus on relaxation, posture, and mindfulness, and can help with issues like anxiety, stress, and even chronic conditions [27].

Overall, both naturopathy and yoga offer holistic approaches to health, emphasizing prevention, education, and the body's natural healing processes [28].

Naturopathic medicine is a special way to take care of health that blends old healing methods with new scientific ideas. It focuses on understanding, treating, and preventing illnesses while trusting that our bodies can heal themselves. Here are the main ideas of naturopathic medicine [29, 30]:

1. *Healing power of nature*: Our bodies have a natural ability to heal when we support them properly.
2. *Identify and treat causes*: Naturopathic doctors (NDs) try to find the real reasons for health problems, not just treat the symptoms.
3. *First do not harm*: NDs start with gentle treatments and only use stronger ones if needed.
4. *Doctor as teacher*: NDs educate patients and involve them in their own healing, building a strong relationship.
5. *Treat the whole person*: This approach looks at all parts of a person's health – physical, mental, emotional, social, and spiritual.
6. *Prevention*: Naturopathy focuses on staying well and preventing sickness rather than just treating it when it happens.

Naturopathic doctors use various tools like healthy eating, herbal remedies, physical therapies, and sometimes minor surgeries. They often suggest a balanced diet with whole foods, fruits, and vegetables [31].

Yoga is another helpful practice that includes movements, breathing exercises, and meditation to improve both mental and physical health. Different types of yoga, like Hatha and Iyengar, help with relaxation, posture, and mindfulness, which can reduce stress and help with conditions like anxiety [32]. In summary, both naturopathy and yoga promote a complete approach to health, focusing on prevention, education, and the body's ability to heal itself [33].

Mind-Body Therapy

The mind can influence our physical health and well-being. Mind-body therapies help connect our thoughts, feelings, and physical health. Some common techniques include relaxation, meditation, yoga, breathing exercises, and visualization [34].

Activities like music, movement, and dance therapy can be helpful for people with anxiety. For those dealing with depression and anxiety, especially cancer patients, therapies like hypnosis, acupuncture, and music therapy have been effective. These approaches focus on the whole person, aiming to improve both mental and physical health [35].

Manipulative and Body-Based Therapy

Manipulative and body-based practices focus on how the body's structures – like bones, joints, and soft tissues – work together. These techniques are part of alternative medicine and aim to help the body heal itself. Some common methods include massage, reflexology, craniosacral therapy, chiropractic care, rolfing, and osteopathic manipulation. These therapies are believed to boost the body's energy and help remove toxins [36].

PROS OF ALTERNATIVE MEDICINE

1. *Holistic approach:* Alternative medicine looks at the whole person—mind, body, and spirit—rather than just focusing on symptoms. This can lead to better overall health.
2. *Patient empowerment:* These therapies encourage people to take an active role in their health, giving them a sense of control over their treatment.
3. *Complementary treatments:* Alternative medicine can work alongside conventional treatments, possibly making them more effective. For example, acupuncture can help reduce nausea from chemotherapy.
4. *Focus on prevention:* Many alternative practices promote prevention and healthy lifestyle changes, which can improve long-term health.
5. *Reduced side effects:* Natural remedies often have fewer side effects than traditional medications, appealing to those seeking gentler options.

CONS OF ALTERNATIVE MEDICINE

- a. *Lack of scientific evidence:* Many alternative treatments haven't been thoroughly tested, raising concerns about whether they work and if they are safe.
- b. *Delayed treatment:* Relying only on alternative medicine can delay effective conventional treatments, potentially making health issues worse.
- c. *Regulation and quality control:* The alternative medicine field often lacks strict regulations, leading to inconsistencies in the quality and safety of products and practices.
- d. *Potential for interactions:* Herbal supplements and other alternative treatments can interact negatively with prescription medications.
- e. *Cost considerations:* Many alternative therapies are not covered by insurance, making them less affordable for some people.

BENEFITS OF ALTERNATIVE MEDICINE

The benefits people often seek from alternative treatments include symptom relief, reduced pain or discomfort, feeling better overall, and finding solutions that work better for their specific health issues compared to standard medications. Many believe these treatments promote overall health rather than just addressing illness [37].

In India, Prime Minister Narendra Modi has encouraged the use of traditional medicine practices, such as Ayurveda, to strengthen the immune system and combat various diseases. He emphasized that Ayurveda is an essential part of the country's health policy. Treatments like Bhadra Ayurveda and panchakarma are seen as effective for conditions like arthritis and joint pain. Additionally, some

political figures have shared anecdotal evidence, like the use of cow urine for cancer treatment, showcasing the perceived benefits of traditional remedies. Yoga practices, such as vajrasana, are also praised for their ability to alleviate knee pain, reflecting a broader appreciation for Indian medicinal systems [38].

Interestingly, practices like cow cuddling, which is thought to promote mental well-being by reducing stress, are gaining popularity globally. Techniques from various alternative medicine practices, including tai chi and acupuncture, are becoming more recognized for their role in enhancing mobility and reducing pain. Overall, there's a growing trend toward complementary and alternative medicine (CAM), reflecting a significant shift in how people seek healthcare in industrialized nations [39].

SAFETY AND EFFICACY OF ALTERNATIVE MEDICINES

According to a National Health Statistics Survey, the most popular alternative therapies include chiropractic care, acupuncture, and herbal remedies, which are often misleadingly labeled as dietary supplements. In 1994, the U.S. Congress passed the Dietary Supplement and Health Education Act (DSHEA), which allowed herbal remedies to be classified as dietary supplements without scientific backing. This change meant that products like herbal remedies, which are used globally for medicinal purposes, were grouped with vitamins and minerals [40].

As a result of DSHEA, the FDA cannot effectively regulate these dietary supplements, leading many consumers to wrongly assume that herbal products are as safe as multivitamins. This has caused a significant increase in the sales of herbal and other nonvitamin supplements.

The claims about the effectiveness of these alternative therapies mainly come from clinical trials funded by commercial companies and professional organizations of alternative practitioners. Reviews of these trials have found them to be unreliable due to bias and poor quality. For example, an analysis of glucosamine for osteoarthritis showed that all positive results came from studies funded by manufacturers, while independent studies found no evidence of efficacy. Similarly, rigorous trials funded by the National Institutes of Health (NIH) and other noncommercial sources did not support the claims made by these alternative therapies [41].

Recent studies on “all-natural” herbal products have found serious issues with quality control and frequent contamination with prescription drugs or hormone-like substances. From 1999 to 2017, the National Center for Complementary and Alternative Medicine (NCCAM)/NCCIH spent about \$2.2 billion on clinical trials but found no solid evidence supporting the effectiveness of any alternative therapies. However, these grants did give some academic legitimacy to integrative medicine. Data on adverse events related to herbal supplements are limited because the DSHEA law initially did not require manufacturers to report problems to the FDA. Based on reports from Poison Control Centers, the FDA estimates around 50,000 adverse events each year, many of which are serious. Between 2004 and 2013, over 23,000 emergency room visits were linked to issues with dietary supplements, with herbal products making up about 66% of those cases. A study on hospital admissions for liver inflammation showed that 20% were caused by dietary supplements [42].

There are also concerns that herbal remedies can interact negatively with conventional medications and that alternative practitioners without medical training might miss serious health issues. While alternative treatments are ideally meant to complement conventional medicine, some people choose them as their first treatment based on misleading claims about their safety and effectiveness. Research shows that patients with certain types of cancer who relied solely on alternative treatments had a higher risk of death compared to those who received conventional therapy [43].

MANAGEMENT OF VARIOUS DISEASE USING ALTERNATIVE MEDICINES

Control of Blood Glucose

Diabetes mellitus (DM) is a widespread chronic condition that affects how the body processes blood sugar. Over the past few decades, the prevalence of diabetes has increased significantly, prompting the development of various medications to help manage blood glucose levels. However, many of these drugs can have long-term drawbacks, such as resistance, side effects, and addiction. This has led to a growing interest in alternative treatment options.

Alongside traditional medications, many diabetes patients are turning to lifestyle changes like diet and exercise. These non-pharmacological approaches include various therapies, such as relaxation techniques, acupuncture, yoga, and even psychotherapy. Natural health products (NHP), which encompass herbal remedies, vitamins, and traditional medicines (like those from Ayurveda and traditional Chinese medicine), are also popular for managing diabetes. Some of these products have been shown to improve blood sugar levels significantly, with certain herbal treatments reducing the risk of developing type 2 diabetes from prediabetes [44].

Examples of alternative treatments include:

- *Herbal remedies:* Ingredients like ginger, ginseng, and bitter melon are often used.
- *Traditional medicines:* Chinese herbs and Ayurvedic formulations have shown promise in managing diabetes.
- *Vitamins and supplements:* Vitamin D, cinnamon, and chromium are of particular interest for their potential benefits.

Mind-body practices, such as yoga and massage therapy, may also help reduce stress-related high blood sugar, although more research is needed to confirm their long-term effectiveness.

Overall, there's a growing recognition of the role that alternative therapies can play in diabetes management, either alone or alongside conventional treatments.

Management of Inflammation

The body reacts to various stresses like infections, injuries, and chemicals with inflammation. Short-term inflammation is helpful for healing, but long-term inflammation can harm healthy cells and lead to diseases, such as arthritis, Alzheimer's, and cancer.

Common treatments for inflammation include nonsteroidal anti-inflammatory drugs (NSAIDs) and steroids. While NSAIDs are generally safe, long-term use can cause serious side effects, including stomach ulcers and kidney problems. About 10% of kidney failures are linked to excessive NSAID use [45].

Alternative medicine (AM) has been used for many years to manage chronic inflammation, primarily through diet and natural products. For instance, omega-3 fatty acids are effective alternatives to NSAIDs, and capsaicin (found in hot peppers) can relieve muscle soreness.

Research shows that diets rich in plant polyphenols, like those found in berries and teas, can protect against various diseases, including cancer and heart disease. Other alternative practices, such as exercise, yoga, tai chi, and acupuncture, may help reduce pain by lowering levels of inflammatory substances in the body.

Interestingly, music therapy has also been shown to reduce pain and anxiety, particularly before and after surgeries. Overall, these findings highlight the value of various alternative methods for managing pain and inflammation, suggesting that they could offer new ways to treat inflammatory diseases.

Management of Cancer

The main treatments for cancer today include surgery, radiation, chemotherapy, and immunotherapy. While these methods can be effective, they often come with serious side effects like fatigue, skin issues, hair loss, and low blood counts. Because of this, many cancer patients and healthcare providers look to alternative medicine (AM) for additional support. Alternative medicine can help manage symptoms, boost the immune system, and improve overall well-being. Some commonly accepted AM practices include acupuncture, aromatherapy, massage therapy, exercise, hypnosis, meditation, music therapy, and yoga. The use of AM varies by cancer type. For example, it's most used by breast cancer patients (93%), followed by colorectal (83%), prostate (77%), and lung cancer patients (77%). Dietary supplements are a popular form of AM for these patients, along with energy medicine, mind-body practices, and body-based therapies. While AM shouldn't replace modern cancer treatments, it can complement them. Here are some ways AM is used to help with cancer symptoms [46]:

- *Anxiety relief*: Techniques like hypnosis, meditation, and massage help reduce anxiety.
- *Fatigue management*: Exercise and relaxation techniques improve energy levels and quality of life.
- *Nausea and vomiting*: Acupuncture, aromatherapy, and music therapy can help prevent these symptoms.
- *Pain relief*: Acupuncture, hypnosis, massage, and music therapy are effective for pain management.
- *Sleep improvement*: Relaxation techniques, yoga, and prayer can help cancer patients sleep better.

Other Alternative Methods Include

- *Dietary treatments*: Various diets like the ketogenic diet, Gerson therapy, and herbal treatments are explored.
- *Natural products*: Items like green tea, ginger, and medicinal cannabis are popular among patients.
- *Energy therapies*: Practices like reiki and therapeutic touch focus on energy healing.
- *Traditional medicine*: Systems like traditional Chinese medicine and homeopathy are also used.

Overall, alternative medicine offers ways to enhance the well-being of cancer patients, providing support alongside conventional treatments.

Asthma Treatment

Asthma is a common respiratory disease that affects over 300 million people globally, including 25 million in the U.S. It can cause symptoms like wheezing, coughing, shortness of breath, and chest tightness. Even with modern treatments available, many people are looking to alternative medicine for help with asthma [47].

There are various types of alternative medicine used to treat asthma, including

- *Herbs and supplements*: For thousands of years, people have used plants and natural products to address lung issues. In Nigeria, for instance, researchers found many local plants used to treat respiratory problems. Some herbs, like Korean ginseng and certain Chinese herbs, may help reduce inflammation in the lungs.
- *Fruits and natural remedies*: Fruits like bitter melon are often used for conditions like asthma and cough. Caffeine can also act as a mild bronchodilator, helping to open airways.
- *Dietary supplements*: Magnesium, fish oil (omega-3 fatty acids), and vitamins C, D, and E may help reduce inflammation and improve asthma symptoms.
- *Yoga and relaxation techniques*: Breathing exercises in yoga and massage therapy can help control breathing and reduce stress, which can be beneficial for asthma sufferers.

While many natural products show promise, it is important to note that some may have side effects. Research is ongoing to better understand their effectiveness and safety in managing asthma

Management of Blood Pressure and CVD

Cardiovascular diseases (CVDs) are the leading cause of death worldwide. While modern medicine has made strides in treating these conditions, complications and recurrences still happen, affecting patients' quality of life. This has led many to explore alternative medicine (AM) for long-term relief and prevention of CVDs [48].

Natural products can help support heart health by improving cholesterol levels, enhancing blood vessel function, and reducing harmful immune responses. Diet plays a crucial role in preventing and managing CVDs and high blood pressure (BP). Some dietary supplements, like fish oil, multivitamins, and coenzyme Q10, are considered beneficial for prevention [49].

In addition to dieting, several non-drug treatments can lower blood pressure. These include:

1. *Behavioral therapies*: Practices like meditation, yoga, biofeedback, and relaxation techniques help reduce stress.
2. *Noninvasive procedures*: Acupuncture and breathing exercises can also be helpful.
3. *Exercise*: Aerobic, resistance, and isometric exercises can improve heart health.

Traditional medicine practices, such as acupuncture and electrical stimulation, are gaining popularity among healthcare professionals, though more evidence is needed on their effectiveness for CVDs.

Certain herbs, like garlic, ginseng, and ginkgo biloba, are used for various heart-related issues, such as high cholesterol and hypertension. These herbs contain compounds that may help protect against CVD, but more research is needed to fully understand their effects.

Interestingly, listening to music has been shown to positively impact blood pressure, heart rate, and anxiety levels in people with coronary heart disease.

Overall, while many patients are using alternative medicine for CVDs, better communication between patients and doctors about these options, along with more research, is essential to ensure safety and effectiveness.

Alternative Medicine for the Management of Anxiety or Sleep Disorders

Anxiety disorders are the most common mental health issues, affecting about 29% of people at some point in their lives. This is especially concerning for older adults, as anxiety and related sleep problems, like insomnia, can seriously impact their physical and mental health, leading to other issues like obesity, diabetes, and heart disease.

Treating anxiety and insomnia can help reduce these problems and prevent new ones. There are several alternative therapies that can be effective for insomnia, including:

- *Herbs and supplements*: Herbal remedies like valerian root and chamomile may help people fall asleep faster and improve sleep quality, though more research is needed to confirm their safety and effectiveness. Melatonin, a natural hormone that regulates sleep, can also be beneficial. Aromatherapy with lavender has been shown to boost melatonin levels, especially in older adults.
- *Mind-body therapies*: Practices like acupuncture, relaxation techniques, meditation, and regular exercise can improve sleep quality and help reduce insomnia severity.
- The COVID-19 pandemic has increased feelings of anxiety and sleep disturbances due to isolation and stress. While some sedative and anti-anxiety medications are available, they can have side effects like respiratory issues. Techniques like progressive muscle relaxation have been found to help with anxiety and sleep problems without the adverse effects of medications.

Music therapy is another powerful alternative treatment. Listening to music can have a positive effect on our emotions and reduce anxiety by influencing physiological responses in the body. Research shows

that music therapy can lower anxiety, improve sleep, and enhance overall comfort. Overall, using these safe and healthy alternative practices can help improve the quality of life for people with anxiety and sleep issues, potentially reducing the need for stronger medications.

Treatment of Menopause

Hormone therapy is an effective way to manage menopause symptoms, but some women can't use it due to health risks like stroke, heart attack, and cancer. In these cases, many turn to alternative medicine (AM) for relief.

There are two main types of alternative interventions for menopause

1. *Mind-body practices*: These combine mental focus, controlled breathing, and physical movements to promote relaxation and improve well-being. They can help reduce pain, stress, anxiety, and mood swings. Common practices include meditation, hypnosis, cognitive behavioral therapy, yoga, and tai chi.
2. *Natural products*: This involves using herbs, vitamins, minerals, and dietary supplements to help manage symptoms.

Additionally, some traditional approaches like acupuncture, reflexology, and homeopathy are also popular.

Research shows that mind-body practices, like meditation and relaxation techniques, can be effective in alleviating menopause symptoms, and improving quality of life for women going through this transition. However, while many women use natural products for symptom relief, there isn't yet consistent evidence to fully support their safety and effectiveness [50].

Management of Rehabilitation

Patients recovering from musculoskeletal issues often turn to alternative medicine treatments. Some of the most used methods include:

- *Massage therapy*: This is especially popular among athletes to help with recovery and improve performance after exercise. It can relieve muscle tension and stiffness, heal strains and sprains, reduce pain and swelling, improve flexibility, and boost blood circulation.
- *Acupuncture*: Involves inserting thin needles into specific points on the body to relieve pain and promote healing.
- *Manipulation medicine*: This includes techniques to adjust and realign the body's structure, often used by chiropractors.
- *Yoga and pilates*: These practices focus on stretching, strengthening, and improving overall body awareness.
- *Mind-body medicine*: This includes techniques that help connect mental and physical health, often through practices like meditation and relaxation.

Various massage techniques, such as effleurage (long, sweeping strokes), petrissage (kneading), friction (rubbing), tapotement (tapping), and vibration, are used to provide these benefits. Overall, these alternative treatments can greatly aid in recovery from musculoskeletal conditions.

Treatment of Autism Spectrum Disorder

Autism spectrum disorder (ASD) is a complex condition that affects how individuals communicate and interact socially, and it often includes repetitive behaviors and restricted interests. The exact causes of ASD are not fully understood, but both genetic and environmental factors are believed to play a role. While there is currently no cure for autism, alternative medicine (AM) can offer some ways to help manage symptoms. Here are some approaches that may be beneficial:

1. *Biologically based therapies*: These include dietary supplements like vitamins and minerals, as well as herbal remedies, such as meadowsweet, calendula, chamomile, marshmallow root, and lemon balm.
2. *Mind-body practices*: Activities like prayer, yoga, music, dance, and art can help improve well-being and emotional expression.
3. *Manipulative and body-based therapies*: Techniques like massage, chiropractic care, and acupuncture may also provide support.
4. *Music therapy*: This has shown strong benefits for children with autism. Research suggests that listening to music can improve cooperation and communication skills, and it can be especially helpful for children with speech delays.

Although some alternative therapies, such as equine therapy, have gained attention and shown promise, more research is needed to confirm their safety and effectiveness. Therefore, a combination of standard medical treatments along with safe alternative approaches – like diet, exercise, and lifestyle changes – may provide the best support for individuals with autism.

Current Marketplace of Alternative Medicines

Alternative medicine (AM) is becoming more popular, but it still faces many challenges. Groups like the National Center for Complementary and Integrative Health (NCCIH) are working to prove that alternative treatments are safe and effective, but this is tough due to the complex history of these therapies.

Current research on alternative medicine often doesn't explore enough areas, so we need broader and more creative studies. It's important to understand how these treatments work, both scientifically and historically, to better incorporate them into modern healthcare.

Many patients seek alternative therapies without telling their main doctors, which can lead to confusion about their treatments. Research shows that a lot of people do not inform their doctors when they try alternative options.

Moreover, alternative treatments often mix physical and spiritual aspects, making it hard to assess using traditional scientific methods that focus on objective measurements. To improve health outcomes, it's vital to conduct well-planned clinical trials comparing alternative and conventional treatments, especially for long-term effects.

Safety and Regulatory Issues of AM

About 80% of sick people in developing countries depend on alternative medicine (AM) for their primary healthcare. However, there is not enough scientific research on the possible harmful effects of many alternative treatments. Many alternative medicines (AM) are not well-tested for safety and effectiveness. Doctors and nurses often lack the training to discuss potential side effects with patients. Additionally, some health professionals are skeptical about using these approaches because they feel uncertain about their benefits. Patients using complementary and alternative medicine (CAM) may not tell their primary healthcare providers for fear of disapproval. Unlike pharmaceutical products, new herbal treatments do not need rigorous testing or FDA approval; manufacturers only need to label their products as safe. This can be risky, as some medicinal plants can be toxic or cause serious side effects, like allergic reactions or organ failure, especially if they contain harmful substances.

Mistakes can also happen from using the wrong plant, incorrect dosages, or drug interactions. For instance, some herbs can cause problems during pregnancy or increase bleeding risks when taken with common medications like aspirin or warfarin. Many in traditional medicine reject AM because they have not been proven safe and effective through clinical trials. Regulations for alternative medicine (AM) differ greatly from country to country, as each nation has its own rules. In many places, the AM

market is poorly controlled, and many products are not properly registered. Among the 194 WHO countries, only 98 have national policies on traditional and alternative medicine, and 109 regulate herbal products.

African and South-East Asian countries have the most regulations, while Europe and America have the least. In the United States, regulations vary by state. In the UK, there are few restrictions on AM practices, except for chiropractic and osteopathy, which are self-regulated. The UK government is recognizing the need for more regulation in AM, with calls for herbal medicine and acupuncture to be more formally regulated. To improve safety and understanding, it's important to train healthcare professionals about AM and its potential interactions with conventional treatments. This knowledge can help providers better follow regulations and inform their patients.

Challenges

Alternative medicine (AM) has gained more attention and acceptance, but it still faces significant challenges. Despite efforts by organizations like the National Center for Complementary and Integrative Health (NCCIH) at NIH, proving the safety and effectiveness of alternative treatments is difficult. This is partly because alternative medicine has a long history with various complex factors that need to be studied comprehensively.

Current biomedical research often limits the scope of alternative treatment studies, which need to be more expansive and innovative. Understanding how these therapies work – both scientifically and historically – is crucial for integrating them into modern medicine.

Many patients turn to alternative practitioners without discussing it with their primary healthcare providers, which can lead to misunderstandings about the treatments being used. Studies indicate that many patients self-refer to alternative therapies and don't inform their doctors about them.

Additionally, alternative treatments often blend physical and spiritual elements, making them hard to evaluate using traditional scientific methods, which rely on objectivity and clear measurement. To improve patient outcomes, it's essential to conduct well-designed clinical trials comparing alternative and conventional treatments, especially for long-term benefits.

CONCLUSIONS

Alternative medicine (AM) has been used in many countries for a long time, but it isn't widely accepted by the medical community because there is not enough solid evidence proving its safety and effectiveness. While some natural treatments show promise, we still need to understand how well they work. Over half of the world's population lacks access to modern healthcare, with most funding going to a small portion of people. It's expected that healthcare costs will double in the next ten years. Low-cost options like lifestyle changes, dietary adjustments, and supplements could serve as alternatives to expensive medications and technologies. More research is needed to see if AM can be beneficial on its own or alongside modern treatments. To understand how AM can fit into today's healthcare, we need thorough studies and exploration of its scientific background.

Doctors should be informed about potential alternative therapies so they can discuss their benefits and risks with patients. By bringing together various stakeholders, including medical and research organizations, we can create better systems and resources to improve the use of AM and meet the growing healthcare demands worldwide. Alternative medicine has gained popularity among both adults and children, with many patients using it alongside traditional treatments. This trend has led professionals in occupational and environmental medicine to seek knowledge about these practices. The increase in alternative medicine use highlights the need for better self-regulation and standards within the industry.

People are accessing information about alternative therapies through the internet, where safety and effectiveness details are often available. Researchers face challenges in studying how well these therapies work. Many alternative treatments are used for conditions that conventional medicine may struggle with, which can lead to better patient compliance and acceptance. In summary, alternative medicine plays an important role in treating various diseases and can enhance patient satisfaction, addressing some issues seen with traditional therapies.

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