

Reflexology – a scientific literary review compilation



Medscape

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*Acronyms***Acronyms**

ART:	Antiretroviral Therapy
AHNA:	American Holistic Nurses Association
BASH:	British Association for the Study of Headache
CABG:	Coronary arteries bypass graft
CAD:	Coronary artery disease
CAM:	Complementary Alternative Medicine
CATs:	Common complementary and alternative therapies
CBT:	Cognitive behavioral therapy
COPD:	Chronic obstructive pulmonary disease
CPP:	Chronic Persistent Pain
CRPS:	Complex Regional Pain Syndrome
CTCA:	Cancer Treatment Centers of America
DSHEA:	Dietary Supplement and Health Education Act
GAD:	General Anxiety Disorder
IBD:	Irritable Bowel Disease
IHS:	International Headache Society
IPT:	Interpersonal therapy
LBP:	Lower Back Pain
MeSH:	Medical Subject Headings
MIPCA:	Migraine in Primary Care Advisors
NINR:	National Institute of Nursing Research (NINR)
NRTI:	Nucleoside Reverse Transcriptase Inhibitors
PSQI:	Pittsburgh Sleep Quality Index
PMS:	Premenstrual syndrome
PSQI:	Pittsburg Sleep Quality Index
PTSD:	Posttraumatic Stress Disorder

Accepted CAM definition: alternative medicine under the term complementary therapies and defined as therapeutic practices that are not currently considered a fundamental element of conventional medical practice.

Acronyms

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6 - Hip & pelvis (acute & chronic). 2006 (revised 2011 Apr 28). NGC:008515..... 42

7 - Low back - lumbar & thoracic (acute & chronic). 2003 (revised 2011 Mar 14). NGC:008517 42

8 - Complementary therapies and integrative oncology in lung cancer: ACCP evidence-based clinical practice guidelines. (2nd Edition) 2007 Sep. NGC:005945 42

9 - Pain management guideline. 2005 Jan (revised 2006 Jul 18; reaffirmed 2011). NGC:005217 43

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*Sources:***Sources:**

We exhausted all search results for “reflexology” and “reflexologist” on a multiple reputable medical databases that use the scientific model and empirical evidence, listed below. We did not include terms such as “foot massage”, “zone therapy” or “foot care”. Our findings can reasonably be assumed to apply to reflexology treatments.

American Psychological Association, search results:

<http://www.apa.org/>

- Reflexology : 5
- Reflexologist : 0

Medscape, search results:

<http://www.medscape.com/>

- Reflexology : 29
- Reflexologist : 1

Agency for Healthcare Research and Quality, search results:

<http://www.guideline.gov/browse/by-topic.aspx>

- Reflexology : 10
- Reflexologist : 0

The Cochrane Library, search results:

<http://www.thecochranelibrary.com/view/0/index.html>

- Reflexology : 10
- Reflexologist : 5

Green Medical Information, search results:

<http://www.greenmedinfo.com/>

- Reflexology : 10
- Reflexologist : 0

Total: 64 publications for *reflexology* and 6 publications for *reflexologist*.

Current medical consensus on reflexology

This study is interested with the results and benefits of reflexology treatment. It seeks to put forth the current medical consensus on reflexology by answering the question:

Does reflexology work, and if so, for which conditions?

We retained the known positive health impacts of reflexology as defined in this document, as well as conditions for which reflexology has shown to be ineffective or is not recommended.

Note: A particular problem for scientific studies on reflexology is that creating blinding trials is almost always impossible – meaning that the patient is aware that a reflexology treatment is being done. To be noted that soaking the feet in water and reflexology both alleviate fatigue in terminally ill cancer patients.

Who uses Complementary Alternative Medicine (CAM)?

Average patient profile (including but not limited to reflexology):

- ✓ More women than men;
- ✓ University education;
- ✓ Also likely to engage in other self-care behaviors;
- ✓ People frequenting CAM tend to be wealthier.

Most common CAM-use conditions (including but not limited to reflexology):

- ✓ Pain;
- ✓ Relaxation / Stress;
- ✓ General wellness.

Of people afflicted with a disease, it is those that are chronic (not acute), that are most likely to seek CAM.

Diseases with no known or effective cure are also more likely to push people to seek CAM compared to diseases that have an effective and established treatment. This sets an environment that may foster false promises and financial abuse. However, to quote one article:

'Sham or science, if the patient feels better, feels comforted, feels less stressed and more functional in life and their practices pose no health risk, then supporting their CAM therapy creates a true holistic partnership in their health care'¹.

¹ Medscape article 4 (The knowledge and usage of CAM by emergency department patients and physicians)

Current medical consensus on reflexology

The following list includes the top 18 types of CAM use – taken from *Medscape Article # 2*, Source: *Int J Clin Pract* © 2010 Blackwell Publishing Ltd.

The purpose of including the list is to underline the fact that reflexology is among the least invasive therapeutic approaches found in the medical literature.

✓ **CAM methods deemed less invasive than reflexology:**

- Relaxation and spiritual healing
- Meditation
- Reiki

✓ **CAM methods deemed more invasive than reflexology:**

- Crystal therapy (small chance of allergic reaction)
- Massage therapy (more bodily contact than reflexology)
- Aromatherapy (smell is the only sense that bypasses the Thalamus in the brain)
- Acupuncture (uses needles; since 1986 there is only one school in Quebec, [College Rosement](#), that educates for acupuncture)
- Osteopathy (more bodily contact than reflexology)
- Herbal medicine (ingesting substances)
- Homeopathy (ingesting substances)
- Chiropractic (spinal corrections)
- Hypnotherapy (potentially invasive mentally)
- TCM (includes massage, acupuncture, herbal remedies = ingesting substances)
- Shiatsu (Japanese for finger pressure, including stretches & other massage techniques)
- Nutritional therapy (ingesting substances)
- Kinesiology (corrective exercise using manual techniques)
- Naturopathy (meaningless word in Quebec (no definition), however in all regulated Canadian provinces the naturopath plays an active role in counseling and prescribing health products based on examinations, including, at times, laboratory analysis)

Reflexology is clearly among the least invasive, which means it has the least possible side effects, and for this reason is among the safest of complementary alternative medicine (CAM).

Disclaimer: All CAM use involves risks.

Current medical consensus on reflexology

Defining Reflexology

Reflexology techniques and definitions vary – some use tools while other use only the fingers / hands. Some use oil or aromatherapy to complement the treatment, others are against these practices.

The specific style of reflexology we are looking at is reflexology without tools or other added elements. It is essentially a learned routine, sharing the same core sets of movements and progression, which lasts approximately 50 minutes. The licensed reflexologist will also spend some time working on a personalised issue as identified with the patient through therapist/patient discussion before, during or after a treatment². This discussion in itself, when conducted by an experienced and licenced reflexologist, can be beneficial and therapeutic. Therefore, even before the reflexologist's hands begin to work on the feet or hands, there is a possible positive effect for the client.

Quote from Medscape article # 26 :

CAM practitioners are likely to encourage good health practices to strengthen the body's defenses and healing abilities, which offer benefits beyond symptom management.

Focus

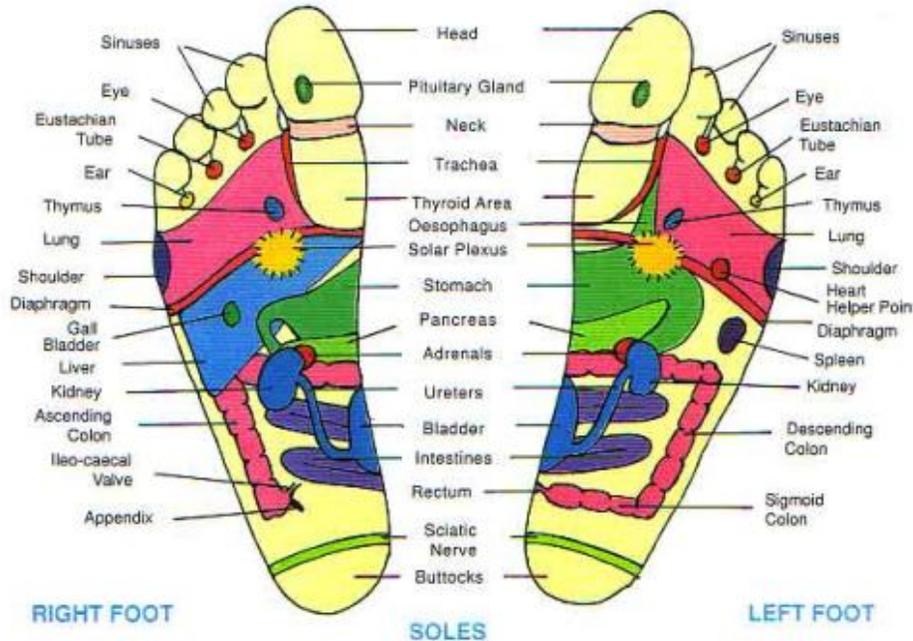
The underlying theory of reflexology postulates that the body, its various systems³ and organs are all interconnected and expressed through nerves in the feet (also in hands). Stimulating these will help the body better heal itself. The reflexologist assumes that the body already knows how to cure its problems, and just needs a little help to get better results, when possible. It should be noted that during the treatment, many people will relax to the point of falling asleep (ie: parasympathetic state). Falling asleep does not preclude or diminish the theoretical effectiveness, as the stimulated nerves are receptive to the treatment either way. Reflexology claims to create a healthy environment for the body, to help it heal itself, by emphasizing the parasympathetic state instead of sympathetic mode. There is, however, insufficient scientific evidence to back these claims up.

² After a treatment also refers to "before the next treatment", wherein the reflexologist's notes allow a review of the person's situation.

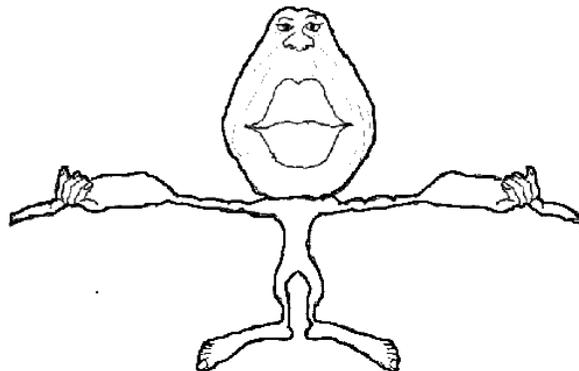
³ Intergumentary system, immune system, circulatory system, respiratory system, etc.

Current medical consensus on reflexology

Reflexology charts vary. Where is the real solar plexus, for example? The answer, of course, is that each and every foot is unique and therefore it can only be identified by a trained reflexologist. The chart is a guideline at best.



Fact: Bacteria evolve thousands of times faster than modern homo sapiens (humans) which are still wired by evolution for conditions dating over 10,000 years ago. At that time, the nerves on the feet played a much more important role in our daily life & survival than today, where our feet are rarely stimulated (flat surfaces, shoes, etc.). The image below is a simplified Homunculus, showing the concentration of nerves in the feet and hands. The lips, face, hands and feet have the most nerves, with the eyes coming in as #1 by far, which are not depicted in the image.



*Current medical consensus on reflexology***Placebo effect?**

A placebo is essentially an effect that is the result of a belief. Similar to the nature versus nurture debate where both usually play a role, reflexology has both a physiological effect as well as a placebo effect. This can be inferred from both the literature and the profile of people using reflexology.

The medical profession openly acknowledges the placebo effect as very powerful, especially beneficial when a treatment is non-invasive, low-risk and has few or no side effects, as demonstrated for reflexology. One article implies that calling the practice "*reflexology*" instead of "*foot massage*" may in fact contribute to the placebo effect.

We know that in any disease state, some patients get better even in the absence of care for reasons we do not entirely understand.

Did you know?

- The Abbott Northwestern Hospital (Minnesota, USA) has 650 beds and serves 200,000 people yearly and employs reflexology?
- Many care givers provide reflexology, such as chiropractors, podiatrists, nurses, and massage therapists. A care giver providing reflexology does not have to be licensed although some states require licensing for massage therapists⁴.

⁴ http://www.allinahealth.org/CCS/doc/Alternative_Medicine/48/20040.htm

Summary: effective versus non-effective conditions**Reflexology is effective for:**

- ✓ Anxiety (but short-lasting)
- ✓ Oedema
- ✓ Mild insomnia
- ✓ Quality of sleep
- ✓ Relieving pain (short run 2-3 hours⁵)

Reflexology is not effective for:

This list alludes that essentially any clinically diagnosed medical disease cannot be cured through the use of reflexology.

- ✓ Inflammatory Bowel Disease
- ✓ CAM is contra-indicated for fertility treatment
- ✓ Neuropathy and polyneuropathy
- ✓ Acute low back pain
- ✓ Sub acute low back pain
- ✓ Chronic low back pain
- ✓ Radicular Pain Syndromes (*including "sciatica"*) :
- ✓ Post-operative low back pain
- ✓ Spinal stenosis
- ✓ Spinal fractures
- ✓ Sacroiliitis
- ✓ Spondylolisthesis
- ✓ Complex regional pain syndrome
- ✓ Trigger points / Myofascial pain
- ✓ Chronic persistent pain
- ✓ Chronic low back pain
- ✓ Depression
- ✓ Work related injuries of the hip and pelvis

Summary:

If you have been diagnosed with a specific condition or disease such generalized anxiety disorder (GAD) or post-traumatic stress disorder (PTSD), then reflexology should **not** be considered as a primary therapeutic approach. The same holds true for other diseases. One should consult with a medical doctor. Reflexology is never a cure.

However, if you have mild anxiety or slightly increased stress levels that have not disrupted your lifestyle or ability to work, then reflexology may help provide a better health style, in conjunction with other healthy life choices.

It should be noted that neither GAD nor PTSD can be measured with an imaging device (fMRI, CAT scan, X-rays) nor can it be measured in blood, hair, or urine samples. Both are diagnosed through symptoms, behaviors and questionnaires, primarily by physicians and psychiatrists.

⁵ Medscape article 6, Testing the effect of Foot Reflexology on Chronic Pain

Current medical consensus on reflexology

The articles reviewed all indicate that reflexology is not a recommended treatment for a vast series of diseases, but can be used to improve health under certain conditions, notably when the patient is in an already “relatively healthy” state.

In Quebec, reflexology is sometimes covered by group benefits insurance policies under the naturotherapy or naturopathy benefit, therein gaining additional credibility by these multi-billion dollar insurance companies who are most interested in having healthy, working and productive clients.

Among the existing Quebec CAM approaches⁶, reflexology should be among the top choices based on invasiveness, side effects and possible risk.

The remaining portion of this document includes key segments of the scientific articles, the data that was retained, as well as links to the complete source publications.

⁶ CAM approaches listed on page 8 of this document.

APA – American Psychological Association (5 publications)

1 - Jennifer Pattershall, Maine social psychology.

Link : <http://www.apa.org/gradpsych/2008/09/research.aspx>

Key point: The belief of how long a practice has been established influences our perception on how we judge therapies, such as reflexology.

Two facts:

- There are reliefs on the walls of a Sixth Dynasty Egyptian tomb (c. 2450 B.C.) that depicts two seated men receiving massage on their hands and feet. ([source](#))
- Reflexology was introduced in 1913 by William Fitzgerald, MD. ([source](#))

Scientifically dubious practices such as reflexology, homeopathy and astrology share an interesting feature: They claim a long and venerable history. That history, whether it's fabricated or real, may strengthen these practices' credibility, says University of Maine social psychology student Jennifer Pattershall.

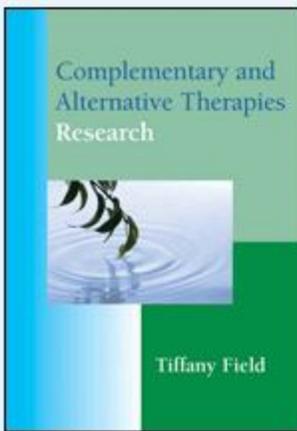
Pattershall conducted two studies to find out. In the first, she recruited 91 college students to read short statements about the practice of acupuncture. The statements differed only in their explanations of how long acupuncture has existed: 250, 500, 1,000 or 2,000 years. The rest of the statement explained that scientific support for acupuncture is mixed. As predicted, the students who read statements claiming acupuncture has existed for 2,000 years judged acupuncture much more positively than did those who read that it was invented only 250 years ago.

"The longer and more established the idea or practice, the more favorably it will be evaluated," she says.

APA – American Psychological Association (5 publications)

2 - Tiffany Field, PhD

Link : <http://www.apa.org/pubs/books/4317165.aspx>



Complementary and Alternative Therapies Research

By Tiffany Field, PhD

Pages: 235

Item #: 4317165

ISBN: 978-1-4338-0401-4

Publication Date: November 2008

Format: Hardcover

Availability: In Stock

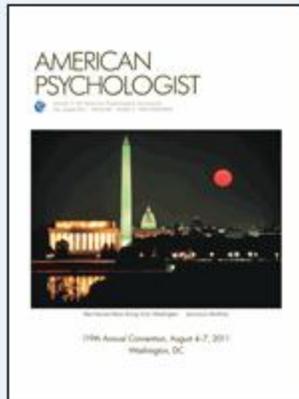
Examine or adopt this book for teaching a course

[See larger image](#)

Book not reviewed.

3 - B.F. Skinner

Link: <http://www.apa.org/pubs/journals/special/4014711.aspx>



Reflections on B. F. Skinner and Psychology

American Psychologist
Kennon A. Lattal (Guest Editor)

Vol. 47, No. 11, November 1992
Item #: 4014711

Skinner's early research: From reflexology to operant conditioning.

Pages 1318-1328

Iversen, Iver H.

CITATION

Skinner's early research: From reflexology to operant conditioning.
Iversen, Iver H.
American Psychologist, Vol 47(11), Nov 1992, 1318-1328. doi: [10.1037/0003-066X.47.11.1318](https://doi.org/10.1037/0003-066X.47.11.1318)

Database: PsycARTICLES
[Journal Article]

Links

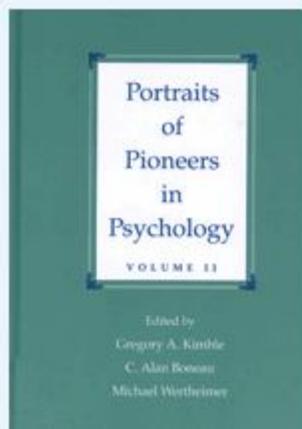
Full text
[Purchase PDF](#) 
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Abstract

The facts of Skinner's research in the 1930s on the acquisition of operant behavior are combined with his own later comments. Skinner discovered that a single reinforcement is enough for conditioning of an arbitrary response. The combination of successive extinction curves after single reinforcements within 1 session led to the 1st schedule of intermittent reinforcement. Operant conditioning also could be arranged to generate new forms of behavior by shaping by successive approximation. Skinner was first influenced by the then dominant terminology of reflexology, but he soon rejected this stimulus-response tradition by demonstrating that eliciting stimuli play no role in operant conditioning. Theoretical implications of Skinner's early research are compared and contrasted with other theories of conditioning at the time. (PsycINFO Database Record (c) 2012 APA, all rights reserved)

Book not reviewed.

4 - Portraits of Pioneers in Psychology, Volume II



Portraits of Pioneers in Psychology, Volume II

Edited by Gregory A. Kimble, C. Alan Boneau, and Michael Wertheimer

Pages: 351

Item #: 4317631

ISBN: 978-1-55798-345-9

Publication Date: March 1996

Format: Softcover

Other Format: Hardcover

Availability: In Stock

Examine or adopt this book for teaching a course

Non applicable.

5 - A Holistic Approach to Biology Derived From Pathological Data in Man

Link: <http://www.apa.org/pubs/books/4320148.aspx>



The Organism: A Holistic Approach to Biology Derived From Pathological Data in Man

By Kurt Goldstein

Pages: 550

Item #: 4320148

ISBN: 978-1-59147-633-7

Publication Date: 1939

Format: Softcover

Written in 1939. Not reviewed.

Medscape (29 publications)

Breakdown:

- Journal Article (18)
- Conference Coverage (3)
- Clinical Case (3)
- Experts And Viewpoints (2)
- Articles (2)
- News (1)

1 - Characterisation of Complementary and Alternative Medicine Use and Its Impact on Medication Adherence in Inflammatory Bowel Disease

Link: <http://www.medscape.com/viewarticle/757182>

N = 380 IBD subjects. No overall difference between CAM and non CAM users, although among CAM users, 62% felt CAM had a positive effect on their IBD symptoms.

N = 413 German IBP patients; N = 289 international patients; each shows that CAM use is on the rise compared to 20 years ago

Result: CAM is not effective at treating IBP, but does not affect treatment negatively.

2 - Complementary and Alternative Medicine Use in England: Results from a National Survey

Link: <http://www.medscape.com/viewarticle/730431>

N = 7630 randomly selected addresses in England.

Our regression models suggest that individuals experiencing anxiety, depression or other long standing illnesses, with poorer mental health and with lower levels of perceived social support are more likely than those in good health to use CAM.

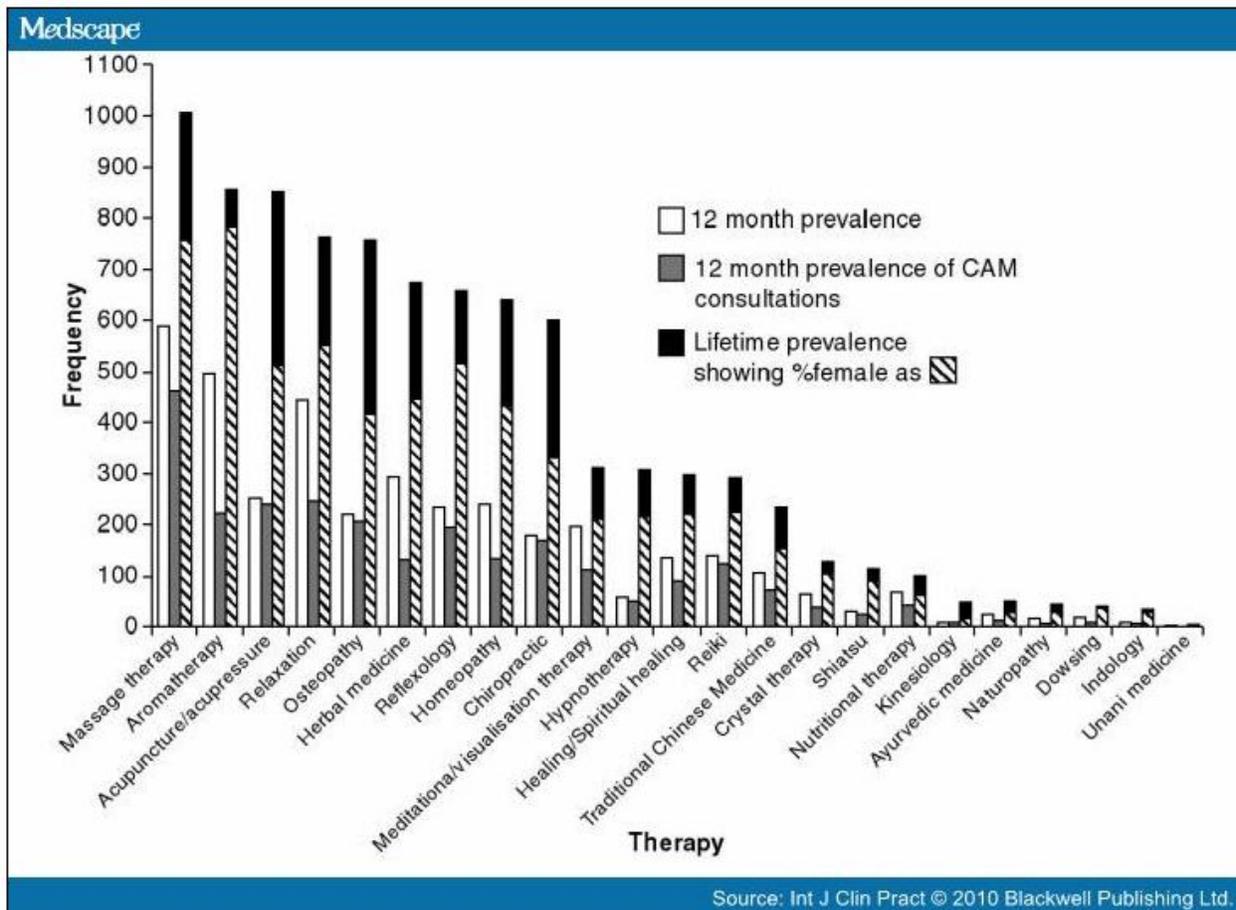
We also found that CAM is used more by women than men, those with a university education, those in active employment, and those who appear to pursue healthy lifestyles (consuming more than five portions of fruit/vegetables per day and using vitamin supplements) compared with those who do not.

Medscape (29 publications)

This confirms previous research suggesting that individuals who are more likely to select healthy lifestyle choices may also be likely to engage proactively in other self-care behaviours including CAM use, and that less risky health behaviours may be associated with CAM use.^[22]

Reflexology was used predominantly by younger women.

It is important to remember that a lack of evidence does not necessarily mean that there is a lack of effect.



Result: CAM use is increasing.

3 - Scant Proof That Herbs or Massage Ease Colic in Babies

Link: <http://www.medscape.com/viewarticle/739726>

N = 944 babies

None of the studies were scientifically solid, the researchers found. Some included very few children, and others were not blinded, which might have swayed the results.

"It's like a drug trial, you wouldn't just trust one very small trial on a medication," Perry said. "It's not to say these things wouldn't work, we just don't know."

4 - The Knowledge and Usage of Complementary and Alternative Medicine by Emergency Department Patients and Physicians

Link : <http://www.medscape.com/viewarticle/737713>

N = 75, surveys. Conditions for which patients reported using CAM included pain (14.4%), relaxation/stress management (11.2%), colds (7.2%), wellness (4.8%), and other uses (13.6%).

Conditions for which physicians reported using CAM included pain (25%), relaxation/stress management (14%), wellness (7%), and other uses (3%). Thirty-two percent of physicians believed that CAM has helped them. Forty-six percent of physicians learned about CAM from friends/family and 21% of them learned about it from another physician. Among the physicians, 96% thought it was important for physicians to be educated about CAM and were willing to discuss CAM with their patients.

Regardless of personal opinions about CAM, allopathic health professionals need more education about CAM so that we can talk to our patients about CAM therapies. Much of the existing literature on CAM is anecdotal or descriptive. However, many of these therapies, such as acupuncture, actually pre-date evidence-based medicine, and have stood the test of time. In addition, many of our current allopathic treatments originated from "natural" sources, such as digoxin from foxgloves, opiates from poppies, taxol from the bark of Pacific Yew, and aspirin, a synthesized copy of chemicals found naturally in plants. This is similar to many of our current medical practices that have limited evidence, but are widely accepted. Accepted treatments and therapies are modified and evolve as new evidence becomes available. For example, blood-letting was once felt to be standard of care, and the evidence supporting coronary artery stenting vs. medical therapy continues to evolve.^[15] "Sham or science, if the patient feels better, feels comforted, feels less stressed and more functional in life and their practices pose no health

Medscape (29 publications)

risk, then supporting their CAM therapy creates a true wholistic partnership in their health care".^[16] As physicians, we should be educated about all therapeutic modalities our patients are using.

Conclusion: The use and public acceptance of CAM in our study population, for both patients and physicians, was high. Both made it clear that patients and physicians want to and are willing to discuss CAM with each other. However, it is also clear that we all desire and need more education about it. Future studies should address how we can best go about educating ourselves, as well as our patients, about CAM.

5 - The Case of an Educated Woman With Fibromyalgia Seeking CAM Therapies

Link: <http://www.medscape.com/viewarticle/731309>

N = 1

People are most likely to seek CAM therapies for conditions that are chronic and do not have an effective single remedy

Rheumatologists reported knowing enough about an average of 10 of 22 listed CAM therapies to discuss them with patients. They considered 9 of the 22 modalities to be legitimate, and had referred patients for 8 of the 22 treatments. In this study, the most commonly endorsed therapies by medical practitioners were acupuncture, biofeedback, counseling/psychotherapy, transcutaneous electrical nerve stimulation (TENS), exercise, and massage. The least endorsed were spiritual healing (meditation and prayer), manipulation, hypnotherapy, energy healing, and homeopathy. Self-use of CAM therapies by practitioners, rather than demographic factors, disease condition, or current evidence base, was the strongest predictor of practitioner referral for that CAM therapy.

As would be expected, CAM practitioners are more likely than other practitioners to recommend CAM modalities.^[16] When asked about the likelihood of recommending CAM for specific conditions, respondents from different CAM organizations chose 7 common conditions deemed to benefit from 12 therapies. These therapies included aromatherapy, Bach flower remedies, Bowen technique, chiropractic, homeopathy, hypnotherapy, magnet therapy, massage, nutrition, reflexology, Reiki, and yoga. The conditions were, in order of frequency: stress/anxiety; headaches/migraine; back pain; respiratory problems; insomnia; cardiovascular problems; and musculoskeletal problems. Thus, the likelihood of patients with fibromyalgia being referred for CAM therapies would be expected to increase as they see more CAM practitioners.

6 - Monthly Summaries of Nursing Research: January 2004

Link: <http://www.medscape.com/viewarticle/467097>

Testing the Effect of Foot Reflexology on Chronic Pain

Stephenson N, Dalton JA, Carlson J. The effect of foot reflexology on pain in patients with metastatic cancer. *Applied Nursing Research*. 2003;16:284-286.

Almost three quarters of patients with advanced cancer experience pain that may not respond to conventional therapies and analgesics. Many patients with chronic pain are turning to complementary and alternative methods of pain relief such as foot reflexology, which involves focused pressure on specific areas of the feet that correspond to specific areas or organs of the body. Researchers tested the effect of foot reflexology treatments on pain relief with 36 hospitalized adult cancer patients who reported a chronic pain level of 2 or more on a 0 to 10 scale. The patient sample was 56% female and 86% white, with a wide range of education and income levels. Most of the patients reported no prior knowledge about reflexology and held no preconception that it would help relieve their pain. The reflexology treatments were delivered in a 30-minute session by a certified foot reflexologist. Immediately after the treatment, the pain scores dropped by an average of 2.4 points. However, no differences in the pain scores were found at 3 or 24 hours. Still, many patients stated they would like to include reflexology into their cancer therapy, with one commenting that it was the only "noninsulting thing" that he had experienced that day. Foot reflexology appears to offer these cancer patients some relief from their chronic pain, and it can be incorporated into the daily care routine and taught to home caregivers.

7 - Use of Complementary and Alternative Medicines Associated With a 30% Lower Ongoing Pregnancy/Live Birth Rate During 12 Months of Fertility Treatment

Link: <http://www.medscape.com/viewarticle/706532>

N = 728 women to have ART

The principal finding of this large prospective observational cohort study was that the concurrent use of CAM in ART was associated with a 30% lower ongoing pregnancy/live birth rate over a 12-month fertility treatment period despite the fact that CAM users underwent more IVF/ICSI cycles and had on average more embryos than did non-users.

Our prospective results are important because they are the first to demonstrate in a large ($n = 728$) representative cohort of people undergoing fertility treatment that CAM use may have adverse effects on

Medscape (29 publications)

the chances of pregnancy and that these forms of intervention may not be as benign as has been previously proposed (Domar, 2006).

CAM here is generalized, and reflexology is not identified, specific herbs used hints that the women in this study were not using reflexology.

8 - Evaluating and Managing Premenstrual Syndrome

Link: <http://www.medscape.com/viewarticle/408913>

Other studies have examined guided imagery and reflexology therapy for the treatment of women with PMS. ^[77] In an open-label trial, patients with PMS improved with progressive muscle relaxation exercises followed by guided imagery. ^[78] The reflexology study applied pressure to actual reflex points on the ears, hands, and feet and compared the response with application to incorrect reflex points as the control. The group receiving the "true" reflexology treatment improved more than the control group. These studies suggest that additional research should be conducted to determine the role of alternative medicine therapies in the treatment of PMS.

Reference 77 : Oleson T, Flocco W. Randomized controlled study of premenstrual symptoms treated with ear, hand, and foot reflexology. *Obstet Gynecol.* 1993;82:906-911.

78: Groer M, Ohnesorge C. Menstrual cycle lengthening and reduction in premenstrual distress through guided imagery. *J Holist Nurs.* 1993;11:286-294.

Note: This is one of very few studies found that used a double-blind approach.

9 - Complementary and Alternative Therapy Use by Older Adults in Three Ethnically-Diverse Populations: A Pilot Study

Link: <http://www.medscape.com/viewarticle/470703>

N = 60, 3 days, 5\$ compensation to each participant.

The 20 therapies chosen were those most likely to be used in the local area (acupressure, acupuncture, aromatherapy, biofeedback, chiropractic, diet, folk remedies, herbs, homeopathy, hypnosis, imagery, magnets, massage, meditation, prayer, reflexology, Tai Chi, touch therapies, vitamins, and yoga).

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Conclusion: Older adults are using complementary alternative therapies (CATs) and could benefit from being aware of the effectiveness of CATs. Many of the therapies can be easily taught to the older adult for self-use. The wise use of these therapies may provide a reduction in the dose or numbers of prescription medications, greater pain relief, better symptom management, improved quality of life, and/or reduced health care expenses.

Despite its limitations, this small pilot study contributes to the increasing body of knowledge regarding the wide use of CATs by older adults and lays the foundation for further investigation of older adults' use of therapies across ethnic groups. It further emphasizes the fairly high rate of use of these therapies by older adults, especially those who may be experiencing chronic illness. It is paramount that nurses compile a thorough prescription and self-treatment history for their older adult patients to identify risk factors for serious interactions. Because nurses practice in a holistic framework with their focus on health and well-being rather than on diagnosis and curing,^[35] nurses are obligated to be knowledgeable about CATs to help clients make responsible choices regarding these therapies. Nurses must make it a priority to enhance and promote the quality of life for older adults through the safe mutual selection of CATs with respect for ethnic differences.

10 - Providing Pediatric Palliative Care Through a Pediatric Supportive Care Team

Link: <http://www.medscape.com/viewarticle/507390>

Not relevant for our purposes.

11 - Integrative Oncology: Complementary Therapies in Cancer Care

Link: <http://www.medscape.com/viewarticle/586874>

Not relevant for our purposes.

12 - Highlights of the 2003 National Clinical Symposium of the American College of Nurse Practitioners (ACNP)

Link: <http://www.medscape.com/viewarticle/465956>

With more than 60,000 complementary and alternative medicine (CAM) professionals currently credentialed in the United States and \$14 billion *out-of-pocket* dollars spent on CAM treatment in 1997, Elizabeth McIntyre's presentation, "Integrative Medicine: The New Approach to Health Care,"^[8] was an eye-opening look at the intersection of American disposable income with a growing desire to take an active role in maximizing health. Elizabeth McIntyre, MAS, RN, NCTBM, is the owner of Everybody, offering consultation with healthcare professionals and facilities about CAM, and a board member of the National Certification Board for Therapeutic Massage and Bodywork. In McIntyre's view, the estimate that there were twice as many CAM visits as primary care visits in 1999 is a vivid illustration that

Medscape (29 publications)

consumers are way ahead in their understanding of the benefits of CAM and are not waiting for anyone's permission to seek the type of care they value.^[8]

She also cited 3 consumer trends that have increased the recognition and use of CAM providers in the United States:

- A desire to seek other options when there is a lack of improvement with traditional therapies.
- A desire to eliminate or manage pain without relying on drugs and/or surgery.
- A desire to take greater personal responsibility for health.

In an historical overview of the evolution of CAM in the United States, McIntyre pointed out that these non-traditional therapies have more or less moved along the following continuum:

Complementary medicine. Patients typically saw a primary care provider and a CAM provider (sometimes in a serial fashion) usually without sharing this information with either---sort of a "don't ask, don't tell" philosophy based on fear of ridicule or rejection.

Alternative medicine. Patients sought CAM providers rather than traditional medical providers either because they had exhausted all the more traditional options or because they were dissatisfied with their level of improvement or participation in decision-making.

Complementary and alternative medicine. Patients are open about receiving care from a variety of providers and increasingly find an environment of acceptance and open communication among the various providers they see. There is much more of a "2-way street" of referrals between traditional medical providers and CAM providers. Because of the growing movement toward integration of CAM with traditional medical therapies, McIntyre believes that *integrative medicine* is a more appropriate and illustrative term in today's healthcare environment.

Although the most well-known CAM modalities are massage therapy, chiropractic, and acupuncture, there are many other types of treatment available, including but not limited to yoga, guided imagery, tai chi, therapeutic touch, herbal medicines, aromatherapy, prayer, journaling, meditation, osteopathic manipulation, magnet therapy, and reflexology. Each type of CAM modality falls into 1 of the following 5 areas of specialty:

1. Alternative medical systems (traditional Chinese medicine)
2. Mind-body intervention (yoga, tai chi, meditation, and others)
3. Biological-based therapies (herbal remedies)
4. Manipulative and body-based therapies (osteopathic manipulation, chiropractic, massage, and others)
5. Energy therapies (therapeutic touch, magnet therapy, and others)

Although favorable consumer opinion has steadily increased as evidenced by growing out-of-pocket expenditures for CAM care, there are also indications that the tide of institutionalized healthcare opinion is beginning to turn. McIntyre highlighted results of a 2003 American Hospital Association study of 1000 member hospitals, which revealed that 80% of respondents offered CAM services. The Joint Commission on Accreditation of Health Organizations now includes requests for information in its pain management standards about the availability of treatment modalities (beyond analgesics) for the management of inpatient pain.^[8]

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The first US government recognition of CAM was the creation of the Office of Alternative Medicine in 1992. In 1998, it was renamed the National Commission on Complementary and Alternative Medicine (NCCAM) and placed within the National Institutes of Health in Bethesda, Maryland. In 1999, President Clinton appointed a White House Commission on Complementary and Alternative Medicine Policy, which delivered its [report](#) to President Bush the following year. The NCCAM's original \$2 million budget grew to \$100 million in 2001 and \$103 million in 2003 to meet its mission to conduct national research, provide education, disseminate information, and sponsor national conferences.

What's The "Take Home" Message on CAM for NPs?

It's a pretty good bet that your patients are receiving or have received some type of CAM treatment. Referrals for the more mainstream CAM modalities, such as massage and chiropractic, are most likely already in the average NP's repertoire. If not, or if you need a refresher, here are some key points to remember:

- Assume your patients are familiar with CAM and routinely ask them what other therapies they're using, which providers they're seeing, and what herbs and supplements they're taking. Often patients rely on information from peers and/or direct-to-consumer advertisements when deciding to take herbs and supplements and do not actually consider this CAM.
- Ask how CAM is helping them. How does the care you're providing fit into their CAM treatment and their overall health goals?
- Become knowledgeable about the various types of CAM providers in your area, their specific areas of expertise, and their success rate in improving patient outcomes. For example, what *form* of acupuncture is performed?
- Does the patient's health plan cover the service? Although statistics indicate that lack of insurance coverage is not always an obstacle, the patient should still be aware that they will be financially responsible for the service. Many insurance plans are adding coverage for the more common forms of CAM, such as massage and chiropractic, while providing no coverage for less commonly known modalities. Coverage questions will need to be specific.
- Is the CAM provider licensed and/or certified? Such credentialing indicates consistent educational and practice standards for that CAM specialty. Be aware that licensure and certification for CAM providers varies a great deal among the various specialties and states. For instance, only 33 states and the District of Columbia license massage therapists.
- Do you have a method for following up with CAM providers about patients you've referred? Not only is this an effective way to discover their success rate in treating certain health problems, but this information can also guide your future referral decisions and improve your assessment of which patients are most likely to benefit from a particular CAM modality.
- Stay abreast of developments in CAM by regularly monitoring the NCCAM Web site.

13 - Dysphoric Disorders in Women: A Case of Premenstrual Syndrome

Link: <http://www.medscape.com/viewarticle/405402>

Possible efficacy for PMS.

Although controlled trials of non-pharmacological treatments are few, dietary recommendations, aerobic exercise, and relaxation training are frequently suggested for women with PMS. Small, controlled studies to date have particularly suggested the efficacy of exercise, cognitive-behavioral strategies, and relaxation training. **There have also been reports of possible efficacy with support groups, acupuncture, biofeedback, reflexology, and sleep deprivation and light therapy.** An open trial^[3] suggested a 60% response rate to multiple lifestyle modifications presented in a group format in women with severe PMS. However, controlled studies of each non-pharmacologic treatment are needed, as are studies comparing non-pharmacologic to pharmacologic treatments.

14 - Do Nurses Practice What They Preach?

Link: <http://www.medscape.com/viewarticle/712966>

N = 149 surveys.

Statistical analysis of 149 returned Health-Promoting Lifestyle Profile II surveys indicates areas of weakness in stress management and physical activity. No significant differences were found in unit, demographic factors, and subscale scores at the .01 level of significance, but medical-surgical nurses consistently scored better than the critical care nurses on health promotion.

These findings support the need for the development of holistic nursing interventions to promote self-care in the identified areas. Strategies include educational/experiential classes in holistic nursing; individualized unit-based activities that foster stress management, such as massage, reflexology, and imagery; and development of an employee wellness program.

Holistic caring and nurturing of self-support a healthy balance and increase productivity and a fuller participation in the life experience. Support of this paradigm shift to an emphasis on self-care provides the energy for nurses to enhance their care of patients, families, and communities.

15 - Anxiolytic Effect of Aromatherapy Massage in Patients with Breast Cancer

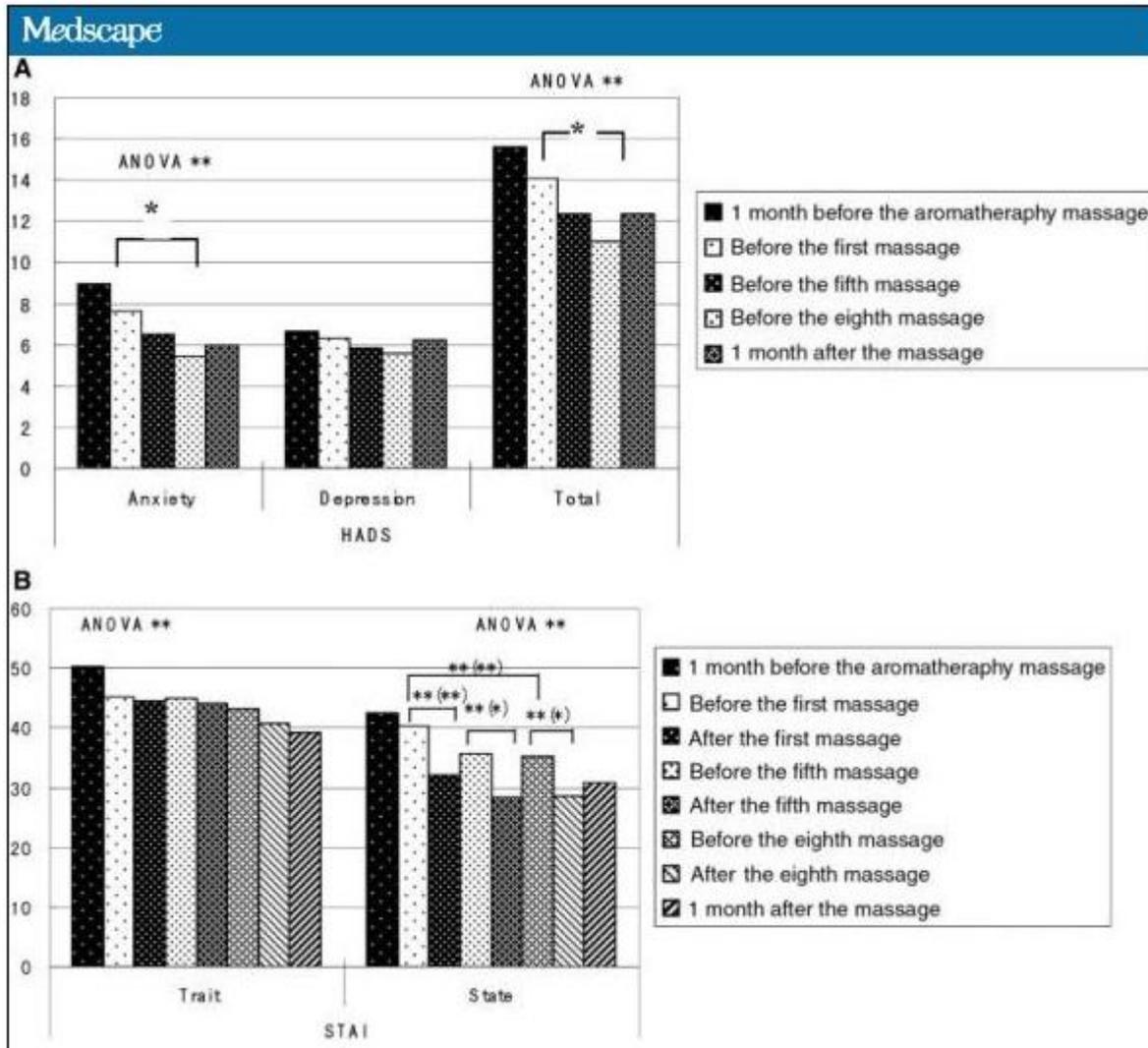
Link: <http://www.medscape.com/viewarticle/718370>

N = 12 breast cancer patients

Combined modality treatment consisting of aromatherapy, soaking the feet and reflexology appears to be effective for alleviating fatigue in terminally ill cancer patients.

We used the Hospital Anxiety and Depression Scale (HADS),^[7] STAI^[8] and Profile of Mood State (POMS)^[9] for evaluation of the psychological response.

The results showed a significant difference among whole periods, tested by repeated measures ANOVA ($P < 0.01$). It was found that there were no significant changes in anxiety or depression in HADS during the waiting control period and the **anxiety level gradually reduced over time** and that there were significant differences between anxiety scores 1 month before massage and immediately before the eighth massage ($P < 0.05$) and between those tested 1 month before and after massage ($P < 0.01$, by paired t -test and $P < 0.05$, by Bonferroni test). However, there were **no significant differences observed in the depression scores**, by repeated measures ANOVA. Also, in the total HADS score, there were significant differences among whole periods and between those of 1 month before massage and immediately before the eighth massage ($P < 0.01$, by paired t -test and $P < 0.05$ by Bonferroni test), and between those of 1 month before and after massage ($P < 0.01$ by paired t -test and Bonferroni test), as in the anxiety scores.



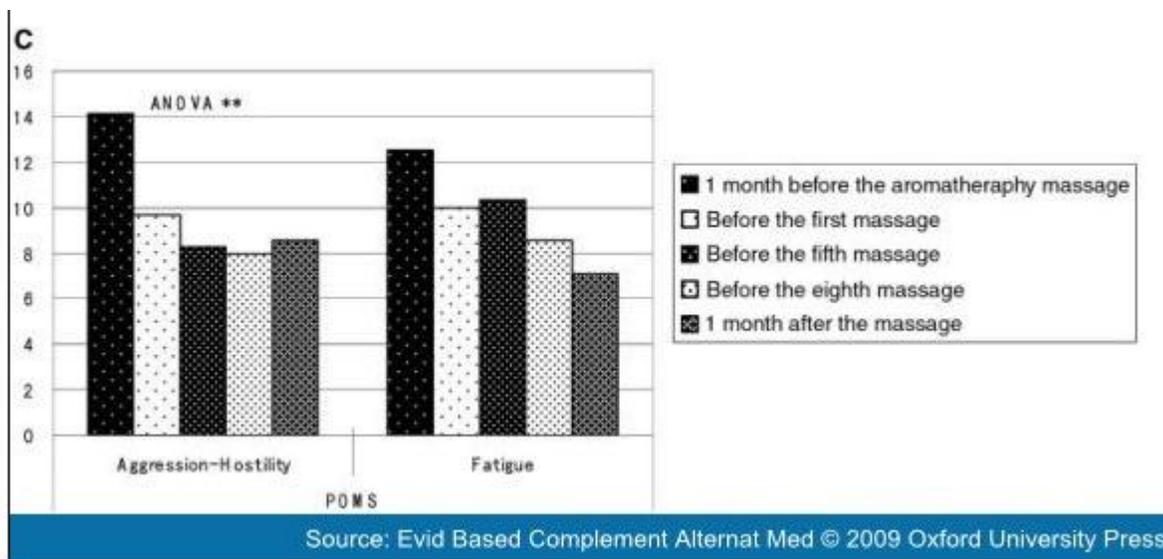


Figure 1.

Psychologic effects of aromatherapy massage on breast cancer patients. **(A)** The subjects filled out the forms of HADS test 1 month before aromatherapy massage, immediately before the first massage fifth massage and eighth massage and 1 month after massage. **(B)** The subjects filled out the forms for psychologic tests (STAI) 1 month before aromatherapy massage, immediately before and after the first massage, fifth massage and eighth massage and 1 month after massage. **(C)** The subjects filled out the forms of POMS test 1 month before aromatherapy massage, immediately before the first, fifth and eighth massage and 1 month after massage. * $P < 0.05$, ** $P < 0.01$, NS: not significant: not done, by repeated measures ANOVA or by paired t -test. * $P < 0.05$, (**) $P < 0.01$, by Bonferroni test.

Summary:

On the other hand, trait anxiety using STAI and HADS, which are appropriate for the determination of long-term effects, gradually reduced over the sessions. That is, there was a significant decrease in trait anxiety scores between 1 month before and after massage. HADS also showed that the anxiety gradually reduced over time, while there were no significant differences in the depression scores.

Coinciding with our results, Corner *et al.* [4] also reported that aromatherapy massage significantly reduced anxiety. Although other investigations [10-13] did not find that aromatherapy had an anxiolytic effect in patients with cancer, we found that aromatherapy massage had both short- and long-term effects on anxiety reduction in breast cancer patients.

16 - Nurses Journal Scan, August 2007

Link: <http://www.medscape.com/viewarticle/563407>

...pPolyneuropathy (DSPN), the most common neurological problem in HIV disease. While HIV-associated neuropathy occurs in at least 6 patterns, distal sensory polyneuropathy is the most frequently occurring type.

DSPN represents a complex symptom that occurs because of peripheral nerve damage related to advanced HIV disease and in association with the use of antiretroviral therapy (ART) -- particularly the dideoxy-nucleoside reverse transcriptase inhibitors (NRTI) class of antiretroviral therapy. It has been estimated that approximately 30% to 63% of those living with HIV have some involvement of the central or peripheral nervous system in the context of their disease. Some research suggests that neuropathic pain constitutes approximately 25% to 50% of all pain clinic visits.

Non-pharmacologic therapy involves limiting tactile pressure to the feet. The patient should be encouraged to avoid walking long distances or standing for prolonged periods of time. Use of warm baths, rubbing creams on the feet, resting, or even elevating the feet have all been found to be helpful. Alternative treatments include massage therapy, reflexology, hypnosis, guided imagery, meditation, drawing, journaling, Reiki, and acupuncture. However, the **effectiveness of these therapies has not been established**. Stress management has proved to be more effective in terms of increasing quality of life when compared with other complementary modalities for a variety of symptoms in HIV disease.

17 - Treating CAD with Cardiac Surgery Combined with Complementary Therapy

Link: <http://www.medscape.com/viewarticle/718181>

Presbyterian Medical Center and at the Medical Center of Delaware, we have used complementary modalities including hypnosis, self-meditation, yoga, music therapy, massage, vitamin therapy, and reflexology in order to further this goal. Women, who usually are more willing than men to participate in complementary modalities, have been a critical target audience in evaluating this holistic approach.

Article not relevant to reflexology.

18 - New Guidelines for the Management of Migraine in Primary Care

Link: <http://www.medscape.com/viewarticle/446557>

Complementary Therapies. Many patients prefer to use complementary medications instead of, or together with, prescribed medications for their migraine. Reasons for this include an exhaustion of all conventional options, feeling this is a fashionable option, obtaining a perceived high level of care from a complementary therapist and greater perceptions of personal control and safety.^[22]

The patient needs to decide which, if any, of these therapies appeals to them, is affordable or practicable to their lifestyles. In addition, **alternative stress reduction strategies, such as aromatherapy, reflexology or yoga, may all be beneficial.** It needs to be stressed that patients should only consult with accredited complementary practitioners.

19 - Integrative Care in Hospital Settings

Link: <http://www.medscape.com/viewarticle/542205>

IHH, Abbott Northwestern Hospital

Lori Knutson, RN, HN-BC, Director of the Institute for Health and Healing (IHH), and Bill Manahan, MD, Integrative Medicine Consultant, gave an overview of the IHH program.

Abbott Northwestern Hospital is licensed for 650 beds and employs 5000 people, including 2000 nurses. It is 1 of 11 hospitals within the Allina Healthcare System, and it serves over 200,000 people yearly in the Twin Cities area. Incorporating integrative care in such a large facility required sensitivity to the existing culture and alignment with the system mission and vision. With support from senior leadership, IHH at Abbott Northwestern Hospital is viewed as the beta site for the system to bring the services throughout the Allina organization.

Ms. Knutson emphasized the 4 main focus areas of the IHH: education, research, and inpatient-outpatient services. She noted that education has to have a comprehensive approach and include healthcare professionals, senior management, and philanthropists; patients and families; and the community. Research at the IHH focuses on clinical trials, quality measures, and establishing the business model for integrative care. **Inpatient services** consist of acupuncture, aromatherapy, energy field therapy, guided imagery, massage therapy, **reflexology**, relaxation therapy, and music therapy. Outpatients can access similar service with the addition of wellness psychology and a personal healing coach.

Medical staff support has grown consistently because patient concerns related to pain, nausea, and anxiety have been very successfully addressed through the integrative modalities.

Dr. Lincoln emphasized the importance of caregivers' healing intentions and presence as being critical components of the environment for care. She noted that employees must demonstrate a congruence with philosophy of care at Woodwinds, and the integrative model is as much "who we are at the essence and core of our being" as is any of the modalities or services offered.

20 - White Paper on Herbal Products

Link: <http://www.medscape.com/viewarticle/409593>

In 1990, an estimated 427 million visits were made to alternative medical practitioners in the United States, exceeding the estimated 388 million visits to primary care physicians during the same period.^[1] The number of visits had risen to 629 million in 1997, with growth mainly due to an increase in new individuals seeking practitioners of alternative medicine.^[2] An estimated \$27 billion was spent in 1997 on alternative medicine.^[2]

Herbal and other natural products such as melatonin and megavitamins represent an area of great growth among alternative medical practices. Between 1990 and 1997, the use of herbal products increased 380% and megavitamin use increased 130%.^[2] During this growth period, concerns have been raised about adequate research supporting efficacy claims and lack of uniform product standardization. The major issues surrounding the use of herbal products are discussed in this paper, and resources and recommendations for pharmacists to improve the informed use of these products by consumers are provided.

Appendix 1. Glossary and Short Descriptions of Other Alternative Medicine Practices

- Acupuncture: practice of piercing specific areas of the body with needles to relieve discomfort associated with painful disorders, to induce surgical anesthesia, or for therapeutic purposes. This procedure originally was introduced and practiced in China.^[60]
- Alexander therapy: therapy designed to increase awareness and voluntary inhibition of personal habitual patterns of rigid musculoskeletal constrictions.^[61]
- Aromatherapy: use of fragrances and essences from plants to affect or alter a person's mood or behavior and to facilitate physical, mental, and emotional well-being. The essential oils in plants contain chemicals, many of which have therapeutic properties and have been used historically in Africa, Asia, and India.^[60]
- Ayurvedic medicine: traditional Hindu system of medicine that is based on customs, beliefs, and practices of the Hindu culture. Ayurveda means "the science of life."^[60]
- Balneotherapy: therapy by hot or warm baths in natural mineral waters or spas. It includes not only bathing in, but also drinking, the waters. It does not include whirlpool baths.^[60]
- Biofeedback: use of instrumentation to give immediate and continuing signals of change in bodily function of which a person is usually unaware.^[60]
- Chiropractic: system that is said to use the recuperative powers of the body and the relationship between musculoskeletal structures and functions of the body, particularly of the spinal column and the nervous system, in the restoration and maintenance of health.^[60]

- Curanderismo: Latin-American, community-based folk system of medicine that consists of two components. The first, humor model, classifies activity, food, drugs, and illness as having characteristics of hot or cold, and dry or moist. Good health is maintained by achieving a balance between these characteristics. The second component involves the treatment of folk illnesses.^[62]
- Hydrotherapy: external application of water for therapeutic purposes. It is differentiated from balneotherapy by emphasizing the use of plain water, whereas balneotherapy emphasizes the use of mineral water.^[60]
- Hypnosis: state of increased receptivity to suggestion and direction, induced by the influence of another person.^[60]
- Massage: systematic application of petrissage, effleurage, friction, percussion, stroking, static pressure, vibration, or other manual manipulations to the soft tissues (muscles, ligaments, tendons, fascia) of the body. These techniques include, but are not limited to, Rolfing, Trager, Bidegewebsmassage, Neuromuscular Therapy Hellerwork, acupressure, myofascial release, strain-counterstrain, positional release, shiatsu, and the manual stimulation of trigger points.^[63]
- Meditation relaxation techniques: mental exercises such as concentration or visualization, postural modifications, and breathing exercises designed to reduce mental and/or physical arousal. These techniques include meditation, Jacobsen exercises, the Mitchell method, autogenic training, visualization and imagery.^[61]
- Osteopathy: a system of therapy and medicine based on the theory that the normal body is a vital mechanical organism whose structural and functional states are of equal importance and is capable of making its own remedies against infections and toxic conditions when there are favorable environmental circumstances and adequate nutrition.^[60]
- Qigong (pronounced "chee gong"): in Chinese, "qi" means energy and "gong" means a skill or practice. Together they translate as "a skill or practice of cultivating energy." Qigong is a Chinese practice of self-care that involves the combination of specific regulation of body movement and posture through physical exercise with meditation involving careful regulation of breath and deep relaxation states. It is done to enhance the mind-body connection and thus promote health.^[64, 65]
- **Reflexology: manual stimulation of points on the foot thought to correspond to the organs and structures of the body.**^[61]
- Therapeutic touch: a method developed in the 1970's by Dora Kunz and Dolores Krieger (from the New York University Nursing School), wherein the healer's hands are placed, in a systematic way, on or near the patient to facilitate palliative relief or cure.^[63]
- Tai chi: an ancient Chinese system of exercise or an "art for life." The practice stimulates the nervous system, increases blood circulation and glandular activity, strengthens muscles, and exercises the joints. The movements are circular and gentle, done in an even, slow tempo, synchronized with the breath.^[66]
- Vegan diet: diet that excludes all animal products such as flesh foods, milk, cheese, eggs, butter, and honey.^[66]
- Vegetarian diet: diet that excludes flesh foods such as meat, fish, fowl and their derivatives. It is sometimes called lacto-ovo vegetarian because it includes milk and eggs.^[66]
- Yoga: orthodox system of Hindu philosophy, which includes exercise for attaining bodily or mental control and well-being.^[60]

Additional research sources could include the following:

The Research Council for Complementary Medicine (RCCM) home page has more details on most of the following. The RCCM's Internet address is provided in Web site section below.

- **AMED (Alternative and Allied Medicine Database).** Produced and updated monthly by the British Library's Medical Information Centre, this database contains 65,000 references from 400 journals on alternative and complementary medicine. Online searches are available through Datastar or MIC-KIBIC. The database is also available on floppy disk and in printed format as the Complementary Medicine Index from the British Library Medical Information Service, Boston Spa, United Kingdom. More details are available from the British Library (01937 546 039).
- **CISCOM (Centralised Information Service for Complementary Medicine).** This RCCM database of research references and abstracts combines data from MEDLINE, AMED, other specialized European databases and in-house citation tracking. There is no direct access to the database, but mediated searches can be arranged by calling the RCCM (+44 0207 833 8897). Fees for use of the service start at £15 (UK) and depend on the scale and complexity of the request. Data are provided in printed or electronic format. A special feature of the CISCOM database is a large collection of randomized, controlled trials, including the full registry of the Cochrane Complementary Medicine Field.
- **The Cochrane Library.** This database provides rapid access to regularly updated systematic reviews of the effects of health care (Cochrane Database of Systematic Reviews [CDSR]), structured abstracts of quality-assessed, previously published reviews (Database of Abstracts of Reviews of Effectiveness [DARE]), references to controlled trials (Cochrane Controlled Trials Register [CCTR]), and references to articles on the science of reviewing research and sources of further information (Cochrane Review Methodology Database [CRMD]). This evidence-based medicine database is developed and maintained by Collaborative Review Groups and is more likely to provide useful information on alternative therapies, including herbs, than is MEDLINE. Subscription information is provided on the Cochrane Library Web site listed in the Web site section below.
- **Cochrane Complementary Medicine Field.** This section of the Cochrane Library was established to meet the growing need for evidence-based research in alternative medical practices. The primary aim of the database is to compile randomized, controlled trials of alternative medicine interventions, particularly from journals that specialize in this area. The full registry of this database is included in CISCOM (listed above). However, a fee is required for a mediated search of CISCOM. Sometime in the near future, this database will be added to the CCTR of the Cochrane Library. This database is only available to subscribers of the Cochrane Library.
- **EXTRACT.** This database contains annotated and codified information about the chemistry, pharmacology, and therapeutics of medicinal plants. More information is available from the Simon Mills Centre for Complementary Health Studies, University of Exeter, Streatham Court, Rennes Drive, Exeter EX4 4PU, United Kingdom (+44 01392 264498 weekdays).
- **NAPRALERT (Natural Products Alert).** This database contains 125,000 entries on natural products used worldwide, including chemical, pharmacologic, and ethnomedical information, and is updated monthly by Scientific and Technical Information Network. Summary information can be found at <http://info.cas.org/ONLINE/DBSS/napralertss.html>.
- **Natural Medicines Comprehensive Database.** This extensive database, maintained by the editors of the Pharmacist's Letter/Prescriber's Letter, contains information on over 1000 herbs and dietary supplements with an index containing over 7000 brand names. Each herb/supplement listing includes 15 categories of information that address the most common questions faced by

practitioners. The database is well referenced and is available as an electronic version (<http://www.NaturalDatabase.com/>) and print version (refer to the books section of this appendix). The Web version is continuously updated and allows more sophisticated searching than does the print version. It also contains a more extensive brand name index.

Web Sites

- **Research Council for Complementary Medicine (RCCM):** <http://www.rccm.org.uk/>. The home page contains a comprehensive listing and descriptions of bibliographic databases, indexes, and journals related to alternative medicine. The RCCM is a resource for health care professionals only; they do not serve the lay public. CISCOM is the RCCM's database. Unfortunately, on the completion of existing commitments, the RCCM will cease to operate. At the time of this writing, the home page was still accessible.
- **American Botanical Council (ABC):** www.herbalgram.org. The home page provides access to information on ordering HerbalGram (see journals), The Complete German Commission E Monographs (see books), and an herb book catalog.
- **NIH's National Center for Complementary and Alternative Medicine (NCCAM):** <http://nccam.nih.gov/>. The NCCAM facilitates research and evaluation of alternative medical practices and disseminates this information to both health professionals and the public. From their home page one can access general information on alternative medicine, a listing of program areas, calendar of events, and the CAM Citation Index. The CAM Citation Index consists of more than 180,000 bibliographic citations from 1963-1998 extracted from the National Library of Medicine MEDLINE database. This database allows one to search or browse the database, which is organized by CAM system, disease, or method. This database is limited by using MEDLINE, which has only 23 subject headings for alternative medicine and is not as extensive as CISCOM or the Cochrane Library.
- **The Cochrane Library:** www.cochrane.co.uk. This Web site contains information about the Cochrane Library and how to access it. Only abstracts are available free from the Internet. A subscription is required for the other services.
- **Center for Food Safety and Applied Nutrition:** <http://vm.cfsan.fda.gov/>. This Web site has a section on dietary supplements, including information on the Dietary Supplement Health and Education Act (DSHEA) and the Special Nutritionals Adverse Event Monitoring System.
- **International Bibliographic Information on Dietary Supplements (IBIDS):** <http://dietary-supplements.info.nih.gov/databases/ibids.html>. IBIDS is a database of published, international, scientific literature on dietary supplements, including vitamins, minerals, and selected herbal and botanical supplements. It is produced by two government agencies, NIH's Office of Dietary Supplements and the U.S. Department of Agriculture's Food and Nutrition Information Center, and currently contains 328,000 citations and abstracts.
- **Micromedex Internet Healthcare Series:** <http://micromedex/mdxdocs/mdxhome.html>. Micromedex is developing a reliable, comprehensive source of information for alternative medicine at this Web site. The AltMedDex System was introduced in February 1999 and will contain more than 50 evidence-based monographs on herbal, vitamin, and other dietary supplements. The clinically focused, scientific information also will contain guidelines and recommendations to assist clinicians in making appropriate therapy choices and decisions.

21 - Complementary and Alternative Medicine in the Treatment of Anxiety and Depression

Link: <http://www.medscape.com/viewarticle/568309>

Some authors group complementary medicines into herbal remedies (food supplements that include vitamin preparations and other organic and inorganic substances, such as omega-3 fatty acids),^[2*] whereas others list individual therapies such as acupuncture, aromatherapy, herbal therapy, homeopathy, iridology, naturopathy and reflexology under the umbrella of CAM.^[3-6,7*,8*,9]

There is ongoing debate regarding the level of evidence required by the scientific community and appropriate methodological approaches in CAM research, including the feasibility and complexities of using randomized controlled trials (RCTs) and difficulties in identifying suitable placebos.

Kessler *et al.*^[11] reported data on the use of complementary therapies to treat anxiety and depression in the USA, which indicate that complementary and alternative therapies are used more than conventional therapies by people with anxiety and severe depression. This large-scale study found depression, anxiety and insomnia to be among the most common reasons for people to use complementary therapies. For example, 53.6% of respondents suffering from severe depression reported using complementary and alternative medicine for treatment during the 12 months before the survey.

A Cochrane review reported by Pittler and Ernst,^[14] which included 11 RCTs involving 645 patients, showed that kava is the only herbal remedy that has been proven to be effective in reducing anxiety

Anxiety and Naturopathy? One answer.

There is a paucity of high-quality studies in the field. Until a reasonable number of methodologically sound studies are completed across these varied treatment modalities, it will remain difficult to draw any substantive conclusions regarding their usefulness to the clinician.

22 - Research Comes to Life

Link: <http://www.medscape.com/viewarticle/513608>

Dr. Mariano acknowledged the difficulties inherent in studying CAM and integrative modalities. "How do we really do research in this arena? **Many of the phenomena of interest in this area are not measurable -- yet.** We need more qualitative research and measurement instruments that focus on the complex interrelationships of body-mind-emotion-spirit. We have some real challenges." She added, however, "**I'm unbelievably optimistic.**"

A group discussion provided confirmation that holistic research findings are implemented into nursing practice on a regular basis. Areas discussed included **use of reflexology for pain relief**, use of imagery in patients receiving joint replacement, and influencing reimbursement for holistic modalities. However, **further research is needed** in many areas to strengthen evidence-based holistic nursing practice.

23 - Anxiolytic Effect of Aromatherapy Massage in Patients with Breast Cancer

Link: <http://www.medscape.com/viewarticle/718370>

... soaking the feet and reflexology appears to be effective for alleviating fatigue in terminally ill cancer patients.

24 - A Rational Approach to Constipation

Link: <http://www.medscape.com/viewarticle/567681>

There are many alternative, nonmedical therapies for constipation. They include but are not limited to herbal supplements, homeopathy, massage therapy, reflexology and yoga. Although potentially helpful, it is important to identify any such treatments and ensure that they do not interact with any medical therapy being offered.

25 - Irritable Bowel Syndrome: What Kind of Fiber, What Kind of Oils

Link: <http://www.medscape.com/viewarticle/587880>

Alternative medicine options including acupuncture, Chinese herbals, and reflexology have been used as adjunctive therapy in the management of IBS, but there is no evidence to support their efficacy.

26 - Integration of Complementary and Alternative Therapies in Geriatric Care

Link: <http://www.medscape.com/viewarticle/542207>

CAM practitioners are likely to encourage good health practices to strengthen the body's defenses and healing abilities, which offer benefits beyond symptom management.

Although they have many benefits as complements or alternatives to conventional therapies, CAM products and services are not without their risks to older adults.

Not all risks relate to physical complications. Older adults tend to have long faith traditions that have significant meaning for them. A CAM therapy that conflicts with one's faith can result in spiritual distress. For example, a Christian who believes that Jesus Christ is the source of all healing and the highest spiritual power can react negatively to energy healing that calls on a universal power or other spirits.

27 - Treating CAD with Cardiac Surgery Combined with Complementary Therapy

Link: <http://www.medscape.com/viewarticle/718181>

Presbyterian Medical Center and at the Medical Center of Delaware, we have used complementary modalities including hypnosis, self-meditation, yoga, music therapy, massage, vitamin therapy, and reflexology in order to further this goal. Women, who usually are more willing than men to participate in complementary modalities, have been a critical target audience in evaluating this holistic approach.

28 - New Guidelines for the Management of Migraine in Primary Care

Link: <http://www.medscape.com/viewarticle/446557>

The patient needs to decide which, if any, of these therapies appeals to them, is affordable or practicable to their lifestyles. In addition, alternative stress reduction strategies, such as aromatherapy, reflexology or yoga, may all be beneficial. It needs to be stressed that patients should only consult with accredited complementary practitioners.

29 - Complementary Therapies and Childhood Cancer

Link: <http://www.medscape.com/viewarticle/510218>

Herbal remedies had the highest usage (47%), with Essiac being the most common remedy. Reflexology, aromatherapy, color therapy, and massage therapy comprised the next most highly used group of therapies (19%).

Agency for Healthcare Research and Quality (10 publications)

1- Putting evidence into practice: evidence-based interventions for anxiety. 2008 Oct 1. NGC:007728

Cancer-related anxiety including general anxiety disorder (GAD) and posttraumatic stress disorder (PTSD)

Note: For the purposes of this guideline, anxiety is defined as an emotional or physiologic response to known or unknown causes that may range from a normal reaction to extreme dysfunction.

Interventions and Practices Considered

1. Psychoeducational interventions
2. Psychosocial interventions
 - Cognitive behavioral therapy
 - Behavioral therapy
 - Individual counseling
 - Support groups
3. Medications
 - Benzodiazepines
 - Antidepressants
 - Azapirones
 - Antihistamines
 - Atypical neuroleptics
 - Other (propofol)
4. Massage therapy
5. Art therapy
6. Exercise
7. Meditation
8. Progressive muscle relaxation
9. Therapeutic touch
10. Reiki
11. Foot reflexology
12. Homeopathy
13. Complementary and alternative therapies

For this literature search, five computerized databases were used: PubMed®, MEDLINE®, CINAHL®, PsycINFO®, EMBASE, and UpToDate

Effectiveness Not Established: Foot reflexology

2- Putting evidence into practice: evidence-based interventions for fatigue during and following cancer and its treatment. 2007 Feb 1. NGC:007734

Cancer-related fatigue

Note: Fatigue was defined as a persistent and subjective sense of tiredness that interferes with usual functioning

Effectiveness Not Established: Combination therapy: aromatherapy, foot soak, and reflexology

3- Low back disorders. 1997 (revised 2007). NGC:006456

Disease/Condition(s)

Low back disorders

Not recommended physical treatment methods: Reflexology for chronic LBP

Reflexology is NOT recommended for the following

- Acute or subacute LBP, or other spinal conditions (I)
- Acute low back pain
- Subacute low back pain
- Chronic low back pain
- Radicular Pain Syndromes (including "sciatica") : reflexology not recommended
- Post-Operative low back pain
- Radicular Pain Syndromes (including sciatica)
- Spinal Stenosis
- Spinal Fractures
- Sacroiliitis
- Spondylolisthesis

4 - Chronic pain. 2008. NGC: 007160

Reflexology is NOT recommended for:

- Complex Regional Pain Syndrome (CRPS)
- Neuropathic Pain (Focus on Radicular Pain and Peripheral Neuropathic Pain)
- Trigger Points/Myofascial Pain
- Chronic Persistent Pain (CPP)
- Chronic Low Back Pain (LBP)

5- Irritable bowel syndrome in adults. Diagnosis and management of irritable bowel syndrome in primary care. 2008 Feb. NGC:007037

The use of **reflexology** should not be encouraged for the treatment of IBS.

6 - Hip & pelvis (acute & chronic). 2006 (revised 2011 Apr 28). NGC:008515

Work-related injuries of the hip and pelvis: considered, but are not recommended.

7 - Low back - lumbar & thoracic (acute & chronic). 2003 (revised 2011 Mar 14). NGC:008517

Low back - lumbar & thoracic (acute & chronic) : considered, but are not recommended.

8 - Complementary therapies and integrative oncology in lung cancer: ACCP evidence-based clinical practice guidelines. (2nd Edition) 2007 Sep. NGC:005945

Most complementary and alternative medicine (CAM) practices can be loosely grouped into five categories according to the National Institutes of Health (NIH) National Center for Complementary and Alternative Medicine (see Table below).

Table: Categories and Examples of Complementary and Alternative Therapies

Biologically based practices	Herbal remedies, vitamins, other dietary supplements
Mind-body techniques	Meditation guided imagery
Manipulative and body-based practices	Massage, reflexology
Energy therapies	Magnetic field therapy
Ancient medical systems	Traditional Chinese medicine, ayurvedic medicine, acupuncture

9 - Pain management guideline. 2005 Jan (revised 2006 Jul 18; reaffirmed 2011). NGC:005217

Alternative Interventions:

1. Acupuncture, reflexology, aroma therapy, music therapy, dance therapy, yoga, hypnosis, relaxation and imagery, distraction and reframing, psychotherapy, peer support group, spiritual, chiropractic, magnet therapy, bio-feedback, meditation, relaxation techniques

10 - Osteoarthritis of the knees. 2007 May. NGC:005848

Some treatments which are widely available suffer from a paucity of good clinical evidence for efficacy and safety. These include the use of glucosamine, chondroitin and other nutraceutical products as well as alternative therapies such as acupuncture and reflexology. However where data does exist, the workgroup has stated recommendations which hopefully will be beneficial to the clinician.

The Cochrane Library (7 publications)

1 - Massage, reflexology and other manual methods for pain management in labour

<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD009290.pub2/abstract>

We included six trials, with data reporting on five trials and 326 women in the meta-analysis. We found trials for massage only. Less pain during labour was reported from massage compared with usual care during the first stage of labour (standardised mean difference (SMD) -0.82, 95% confidence interval (CI) -1.17 to -0.47), four trials, 225 women), and labour pain was reduced in one trial of massage compared with music (risk ratio (RR) 0.40, 95% CI 0.18 to 0.89, 101 women). One trial of massage compared with usual care found reduced anxiety during the first stage of labour (MD -16.27, 95% CI -27.03 to -5.51, 60 women). No trial was assessed as being at a low risk of bias for all quality domains.

2 - Interventions for varicose veins and leg oedema in pregnancy

<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD001066.pub2/abstract>

N = 55 and N = 43

Oedema

One trial, involving 35 women, reported no significant difference in lower leg volume when compression stockings were compared against rest (weighted mean difference -258.80, 95% CI -566.91 to 49.31). Another trial, involving 55 women, compared reflexology with rest. Reflexology significantly reduced the symptoms associated with oedema (reduction in symptoms: RR 9.09, 95% CI 1.41 to 58.54). There was no evidence of significant difference in the women's satisfaction and acceptability with either intervention (RR 6.00, 95% CI 0.92 to 39.11).

Reflexology appears to help improve symptoms for women with leg oedema, but again this is based on one small study (43 women). External compression stockings do not appear to have any advantages in reducing oedema.

3 - Non-invasive interventions for improving well-being and quality of life in patients with lung cancer

<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD004282.pub3/abstract>

Two small trials of reflexology showed some positive but short-lasting effects on anxiety and pain intensity.

Despite recent advances in lung cancer treatment, the outlook for most patients is grim. Many still face a short survival time during which they may suffer physical and psychological problems associated with the cancer and with side effects of treatment. Although no cure exists, there is a need for high-quality care to support patients and reduce symptoms as much as possible. This review found that nursing programmes and interventions to manage breathlessness may produce beneficial effects and that some psychotherapeutic, psychosocial and educational interventions can play some role in improving the quality of life of patients. Counselling may help patients to cope better with emotional symptoms and reflexology can have some short-term beneficial effects. The main limitations of the included studies were the variability of the interventions, the way results were measured and the lack of 'blinding' (ensuring that those who are measuring the patients' outcomes are not aware of which treatment the patient actually received).

4 - Complementary and alternative therapies for pain management in labour

<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD003521.pub2/abstract>

There is insufficient evidence about the benefits of music, massage, relaxation, white noise, acupressure, aromatherapy, and no evidence about the effectiveness of massage or other complementary therapies.

5 - Massage and touch for dementia

<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD004989.pub2/abstract>

Massage and touch may serve as alternatives or complements to other therapies for the management of behavioural, emotional and perhaps other conditions associated with dementia. **More research is needed**, however, to provide definitive evidence about the benefits of these interventions.

6 - Massage for low-back pain

<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD001929.pub2/abstract>

Thirteen randomized trials were included. Eight had a high risk and five had a low risk of bias. One study was published in German and the rest in English. Massage was compared to an inert therapy (sham treatment) in two studies that showed that massage was superior for pain and function on both short and long-term follow-ups. In eight studies, massage was compared to other active treatments. They showed that massage was similar to exercises, and massage was superior to joint mobilization, relaxation therapy, physical therapy, acupuncture and self-care education. One study showed that reflexology on the feet had no effect on pain and functioning. The beneficial effects of massage in patients with chronic low-back pain lasted at least one year after the end of the treatment. Two studies compared two different techniques of massage. One concluded that acupuncture massage produces better results than classic (Swedish) massage and another concluded that Thai massage produces similar results to classic (Swedish) massage.

This is the only study to note that there is no pain reduction. Method, size and experiment conditions not stated.

7 - Relaxation techniques for pain management in labour

<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD009514/abstract>

Not retained.

Green Medical Information (6 publications)

1 – Foot reflexology (wooden needle technique) is superior to the drug Alprazolam in the treatment of insomnia

<http://www.greenmedinfo.com/article/foot-reflexology-wooden-needle-technique-superior-drug-alprazolam-treatment-insomnia>

N = 120

OBJECTIVE: To investigate the therapeutic effect of wooden needle on the patients with insomnia. **METHODS:** One hundred and twenty patients with insomnia were randomly divided into a wooden needle group and a western medicine group, 60 cases in each group. In the wooden needle group, the patients were treated with wooden needle to press the plantar reflex areas, such as cerebellar, throid and cerebral areas. In the western medicine group, Alprazolam was taken orally. Before and after treatment, Pittsburgh Sleep Quality Index (PSQI) was used to evaluate the therapeutic effect of both groups. **RESULTS:** The total therapeutic effect was 100.0% in the wooden needle group, while it was 90.7% in the western medicine group, there was no significant difference between the two groups ($P > 0.05$). Compared with PSQI before and after treatment, there was difference in the both groups (All $P < 0.01$), but there was no difference between the two groups ($P > 0.05$). **CONCLUSION:** The therapeutic effect of wooden needle is similar to that of Alprazolam on the insomnia, indicates that wooden needle is a better therapy for treating insomnia.

2 - Reflexology may limit further deterioration or maintain improvement of wellbeing in Parkinson's disease patients.

<http://www.greenmedinfo.com/article/reflexology-may-limit-further-deterioration-or-maintain-improvement-wellbeing-parkinsons>

This study explored whether reflexology could improve or sustain the wellbeing of people with Parkinson's disease [PD] using the PDQ39 wellbeing tool designed specifically for use with people with PD. The treatment protocol involved giving 8 therapy sessions to 16 people with varying derees of PD in a cross-over design to enable a longitudinal survey of impact. Whilst the results reflected the progressive nature of PD deterioration over time there was an improvement in wellbeing over the active therapy phase. These results suggest that continuous two- three weekly reflexology may limit further deterioration or maintain improvement of wellbeing. A further study is indicated to study this hypothesis.

3 - Foot reflexology improves quality of sleep amongst postpartum women.

<http://www.greenmedinfo.com/article/foot-reflexology-improves-quality-sleep-amongst-postpartum-women>

OBJECTIVE: to examine the effectiveness of using foot reflexology to improve sleep quality in postpartum women. **DESIGN AND SETTING:** randomised controlled trial, conducted at two postpartum centres in northern Taiwan. **PARTICIPANTS:** 65 postpartum women reporting poor quality of sleep were recruited from July 2007 to December 2007. **INTERVENTIONS:** participants were assigned randomly to either an intervention or a control group. Participants in both groups received the same care except for reflexology therapy. The intervention group received a single 30-minute foot reflexology session at the same time each evening for five consecutive days. Sessions were administered by a certified nurse reflexologist. **MEASURES AND FINDINGS:** the outcome measure was the Pittsburgh sleep quality index (PSQI), and this was performed at baseline and post-test. Mean PSQI scores for both groups declined over time between baseline and post-test. Using a generalised estimation equation to control several confounding variables, the changes in mean PSQI were found to be significantly lower in the intervention group (beta=-2.24, standard error=0.38, p<0.001) than in the control group. **CONCLUSION:** an intervention involving foot reflexology in the postnatal period significantly improved the quality of sleep. **IMPLICATIONS FOR PRACTICE:** midwives should evaluate maternal sleep quality and design early intervention programmes to improve quality of sleep in order to increase maternal bio psychosocial well-being. Midwives interested in complementary therapies should be encouraged to obtain training in reflexology and to apply it in clinical settings if it is allowed.

4 - Foot reflexology is therapeutic for patients with symptomatic idiopathic detrusor over activity.

<http://www.greenmedinfo.com/article/foot-reflexology-therapeutic-patients-symptomatic-idiopathic-detrusor-overactivity>

N = 109

The aim of this study was to examine whether foot reflexology has beneficial effects on patients with idiopathic detrusor over activity. One hundred and nine women with symptomatic idiopathic detrusor over activity were randomized into either foot reflexology treatment group or nonspecific foot massage control group. The primary outcome measure was the change in the diurnal micturition frequency. There was significant change in the number of daytime frequency in the reflexology group when compared with the massage group (-1.90 vs -0.55, p = 0.029). There was also a decrease in the 24-h micturition frequency in both groups, but the change was not statistically significant (-2.80 vs -1.04 p = 0.055). In the reflexology group, more patients believed to have received "true" reflexology (88.9 vs 67.4%, p = 0.012). This reflects the difficulty of blinding in trials of reflexology. Larger scale studies with a better-designed control group and an improved blinding are required to examine if reflexology is effective in improving patients' overall outcome.

5 - Reflexology has qualitative and quantitative benefits for patients with COPD.

<http://www.greenmedinfo.com/article/reflexology-has-qualitative-and-quantitative-benefits-patients-copd>

It is known that many patients with obstructive pulmonary diseases use a number of complementary and alternative medicines (CAM). There has been a great deal of interest into the CAM recently, with the House of Lords select committee for science and technology's report suggesting randomised-controlled trials are the best means of researching the area. There is very little research into the effects of reflexology specifically on the effects it has on COPD. As such a randomised-controlled trial was set up to examine the effects of reflexology treatments on COPD. Results were qualitative and quantitative and showed that there are a number of areas of possible benefit for patients with COPD, but a larger scale study with a longer time frame is needed for a full evaluation of these effects.

6 - Reflexology has therapeutic value in treating cold intolerance.

<http://www.greenmedinfo.com/article/reflexology-has-therapeutic-value-treating-cold-intolerance>

N = 10

Cold intolerance is an inability to tolerate cold temperatures and is accompanied by symptoms including headache, shoulder discomfort, dizziness and palpitations. The current study was performed to examine whether reflexology therapy affected cold intolerance in human subjects and whether the treatment was systemically effective. Ten female volunteer examinees with subjective feelings of cold were examined. After a 5-minute foot bath, 10 minutes of reflexology therapy was performed on their left foot. Skin temperature and blood flow were estimated before and after treatment, together with an interview concerning their feelings of cold and daily habits. In addition, how the recovery rate was affected by the application of a chilled-water load was also estimated. Along with significant increases in skin temperature and blood flow compared with pre-treatment at the bilateral points of KI-1, LR-3, and BL-60, a faster recovery after the application of the chilled-water load was also seen in the lower limbs on both sides. From these results, we conclude that reflexology has systemic effects and is an alternative method for treating cold intolerance.

7 - Reflexology may have therapeutic activity for urinary symptoms associated with multiple sclerosis.

<http://www.greenmedinfo.com/article/reflexology-may-have-therapeutic-activity-urinary-symptoms-associated-multiple-sclerosis>

AIM: This paper is a report of a systematic review to evaluate the efficacy of reflexology in any condition. **BACKGROUND:** Anecdotal evidence has shown potential benefits of reflexology in a variety of health conditions. However, the efficacy of reflexology has yet to be determined. **DATA SOURCES:** Cochrane library, PubMed, MEDLINE, EBM review, ProQuest Medical Bundle and SCOPUS databases were searched using the following medical subject headings or key words: reflexology, foot reflexotherapy, reflexological treatment, foot massage and zone therapy. Chinese articles were searched through the Chinese electronic periodical services and Wangfane database. The publication date was limited from 1996 to 2007. **REVIEW METHODS:** Studies were selected if they were written in English or Chinese, used a controlled clinical trial design, used reflexology as a stand-alone modality, and reported such outcomes as symptoms relief, quality of life and patients' perceptions of reflexology. Study quality was reviewed based on the evidence rating system of the United States Preventive Services Task Force, and studies with the evidence rating of II-2 fair or above were included in this review.

Results: Among the five studies suitable for review, there was only one report of a statistically significant treatment effect. Among the 12 outcome variables examined, the treatment effect size for urinary symptoms was large, whereas the effect size for other conditions was negligible. **CONCLUSION:** There is no evidence for any specific effect of reflexology in any conditions, with the exception of urinary symptoms associated with multiple sclerosis. Routine provision of reflexology is therefore not recommended.