

“ALTERNATIVE” MEDICINE: A REVIEW OF STUDIES SUPPORTED BY GRANTS AWARDED BY THE NATIONAL CENTER FOR COMPLEMENTARY AND ALTERNATIVE MEDICINE

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THE USE OF UNPROVEN TREATMENT PROCEDURES—called “‘alternative’ medicine” or “complementary medicine”—is claimed to be increasing, although others find the claims to be inflated.¹ Bergman and coworkers distinguish between conventional medicine and “alternative” medicine and suggest the need to find a middle ground.²

However, there is no alternative to science-based medicine, just as there is no alternative to astronomy or chemistry unless one accepts astrology or alchemy. Therefore, a middle ground somewhere between science and validity on one hand, and pseudoscience and indeterminacy on the other, cannot logically exist or be acceptable to a rational society. Angell and Kassirer stated it also: “It is time for the scientific community to stop giving alternative medicine a free ride. There cannot be two kinds of medicine—conventional and alternative.”³

The inclusion of procedures such as acupuncture, herbalism, and homeopathy in the practice of medicine requires proof of efficacy. Nine years ago Congress asked the National Institutes of Health (NIH) to establish the Office of Alternative Medicine (OAM), and provided a budget of \$2 million. Congress then upgraded OAM to the National Center for Complementary and Alternative Medicine (NCCAM) with a budget of \$68 million; this budget now exceeds \$78 million. The major intent

was the provision of grants for the study of the efficacy of various procedures.

According to the NCCAM Web site, 30 center grants, 67 research grants, 14 cooperative agreements, and 4 training grants were awarded from 1993 to 1998. By the time of this writing, remarkably little had been found effective and, surprisingly, there had been few enlightening publications of any kind.

In February 2000 NCCAM provided a complete bibliography of the research it supported. For the period between 1995 and 1999 there were 62 entries. The list included 7 reports of controlled studies in humans. Two were about the use of acupuncture for pain control after tooth extraction⁴ and knee pain in patients with osteoarthritis.⁵ A small benefit was reported for each. But these 2 studies were repeats of similar earlier investigations by the same authors.^{6,7} In other studies, massage therapy of 14 infants of HIV-positive mothers,⁸ and of bone marrow transplant patients⁹ found results slightly superior to those in controls.

A study of absorption and “imagery instruction” showed positive effects on immunoglobulin A (m-IgA) levels in saliva.¹⁰ The clinical significance is unknown. Patients in an outpatient methadone maintenance program were randomized into one group receiving dynamic group psychotherapy and into another group practicing Hatha yoga weekly for 6 months.¹¹ Both groups experienced significantly decreased drug use and decreased criminal activity, but there was no difference between the 2 groups, nor was there a nontreatment control group. Meta-analysis of 185 placebo-controlled trials of

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homeopathic preparations by a group in Munich, Germany, yielded 89 studies with data adequate for analysis.¹² These authors reported that they "found insufficient evidence from these studies that homeopathy is clearly efficacious for any clinical condition." The findings were not much different from previous studies of similar type.¹³

Also in the bibliography were 13 surveys of the practice and teaching of complementary medicine, 8 uncontrolled treatment trials, 8 animal or tissue culture studies, 5 pilot studies, and 3 plans for future study. Twelve reports were listed as "in press" or "submitted for publication," 1 paper was listed twice, and 5 could not be found using MEDLINE. None of these contained information useful for medical practice.

While there are many reports of controlled studies about alternative medicine, just 2 reviews are mentioned. From a meta-analysis of homeopathy, Kleijnen, Knipschild, and ter Riet¹³ concluded that "at the moment the evidence of clinical trials is positive but not sufficient to draw definite conclusions because most trials are of low methodological quality and because of the unknown role of publication bias."

In a position paper released in 1988 and published in 1991,¹⁴ the National Council Against Health Fraud included a pilot meta-analysis that included grading of papers for quality. It concluded that the scientific literature up to that time had provided no evidence that acupuncture performed consistently better than a placebo in pain control, and stated that "acupuncture cures nothing."

The position of the American Medical Association (H-480.964 Alternative Medicine) is:

1. There is little evidence to confirm the safety or efficacy of most alternative therapies. Much of the information currently known about these therapies makes it clear that many have not been shown to be efficacious. Well-designed, stringently controlled research should be done to evaluate the efficacy of alternative therapies.
2. Physicians should routinely inquire about the use of alternative or unconventional therapy by their patients, and educate themselves and their patients about the state of scientific knowledge with regard to alternative therapy that may be used or contemplated.
3. Patients who choose alternative therapies should be educated as to the hazards that might result from postponing or stopping conventional medical treatment.*

*Web-based version of the AMA Policy Finder is available at: www.ama-assn.org/apps/pf_online/pf_online.

Other medical organizations should follow with clear statements to the public about this state of affairs. Efforts should be made to distinguish clearly between food supplements and drugs. For instance, it is difficult to understand why St John's wort is protected as a food supplement and not required to be tested by the FDA as a drug.

I conclude that there is insufficient evidence from previous studies or from studies supported by the NCCAM to accept any "alternative" procedures into the realm of scientific medicine. So far, the National Center for Complementary and Alternative Medicine has not sponsored significant research in a responsible manner. Even clinical trials of St John's wort, commercial supplies of which cannot be controlled for content, cannot be considered truly responsible. As seen from the above list, millions of NCCAM dollars have enabled the continuation of ill-conceived research projects. These projects support positions of advocacy in academic medical centers and continuing calls for more and better research because of defective and inconclusive data.

In the lay, supportive sector, I propose that insurance companies exercise voluntary restraint and insure only for methods backed by scientific evidence rather than insuring for methods demanded by poorly informed consumers. Government licensing of practitioners of various unproved practices will need greater scrutiny and limitations by the states.

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REFERENCES

1. Jarvis W. Alternative Medicine Survey distortions: an early critique. *Sci Rev Alt Med*. 2001;5(4):208–210.
2. Bergman BM, Swyers JP, Hartnoll SM, Singh BB, Bausell B. The public debate over alternative medicine: the importance of finding a middle ground. *Alt Ther Health Med*. 2000;6:98–101.
3. Angell M, Kassirer J. Alternative medicine—the risk of untested and unregulated remedies *N Engl J Med*. 1998; 339:839.
4. Lao L, Bergman S, Hamilton GR, Langenberg P, Bergman B. Evaluation of acupuncture for pain control after oral surgery: a placebo-controlled trial. *Arch Otolaryngol Head Neck Surg*. 1999;125:567–572.
5. Bergman BM, Singh BB, Lao L, et al. A randomized trial of acupuncture as an adjunctive therapy in osteoarthritis of the knee. *Rheumatology*. 1999;38:346–354.

6. Bergman BM, Lao L, Greene M, et al. Efficacy of traditional Chinese acupuncture in the treatment of symptomatic knee osteoarthritis: a pilot study. *Osteoarthritis Cartilage*. 1995;3:139-142.
7. Lao L, Bergman S, Langenberg P, Wong RH, Bergman BM. Efficacy of Chinese acupuncture on postoperative oral surgery pain. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*. 1995;79:423-428.
8. Scafidi F, Field T. Massage therapy improves behavior in neonates born to HIV-positive mothers. *J Pediatr Psychol*. 1996;21:889-897.
9. Ahles TA, Tope DM, Pinkson B, et al. Massage therapy for patients undergoing autologous bone marrow transplantation. *J Pain Symptom Manage*. 1999;18: 157-163.
10. Gregerson MB, Roberts IM, Amiri MM. Absorption

and imagery locate immune responses in the body. *Biofeedback Self Regul*. 1996;21:149-165.

11. Shaffer HJ, LaSalvia TA, Stein JP. Comparing Hatha yoga with dynamic group psychotherapy for enhancing methadone maintenance treatment: a randomized clinical trial. *Alt Ther Health Med*. 1997;3:57-66.

12. Linde K, Clausius N, Ramirez G, et al. Are the clinical effects of homeopathy placebo effects? A meta-analysis of placebo-controlled trials. *Lancet*. 1997 350:834-843.

13. Kleijnen J, Knipschild P, ter Riet G. Clinical trials of homeopathy. *BMJ*. 1991;302:316-323.

14. Sampson W. National Council against Health Fraud position paper on acupuncture. *Clin J Pain*. 1991;7(2): 162-166.



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