

Naturopathic Physicians: Holistic Primary Care and Integrative Medicine Specialists

Andrew P. Litchy, ND

National College of Natural Medicine, Helfgott Research Institute, Portland, Oregon, OR, USA

ABSTRACT. The use of Complimentary and Alternative Medicine (CAM) is increasing in the United States; there is a need for physician level practitioners who possess extensive training in both CAM and conventional medicine. Naturopathic physicians possess training that allows integration of modern scientific knowledge and the age-old wisdom of natural healing techniques. Naturopathic philosophy provides a framework to implement CAM in concert with conventional therapies. The naturopathic physician's expertise in both conventional medicine and CAM allows a practice style that provides excellent care through employing conventional and CAM modalities while utilizing modern research and evidence-based medicine.

KEYWORDS. Naturopathic Medicine, Integrative Medicine, Lifestyle Medicine, Botanical, Nutraceutical, CAM

INTRODUCTION

The use of Complimentary and Alternative Medicine (CAM) is increasing in the United States (Barnes, Bloom, & Nahin, 2008). There is a need for physician level practitioners who possess extensive training in both CAM and conventional medicine. Naturopathic physicians are trained in both CAM and conventional approaches to healing. Naturopathic theory and education prepare naturopathic physicians to bridge conventional and nonconventional medical systems and provide holistic primary care.

NATUROPATHIC PHILOSOPHY

Naturopathic medicine, based on a philosophy of medical care that emphasizes the individuality and innate healing capacity of the patient, is growing rapidly in the United States as well as worldwide; the number of practicing naturopathic physicians has more than tripled in the last fifteen years (Association of Accredited

Address for Correspondence: Andrew P. Litchy, ND, National College of Natural Medicine, Helfgott Research Institute, Andrew P Litchy, 049 Porter St, Portland, Oregon, OR, 97201, USA. (E-mail: litchy818@yahoo.com).

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Naturopathic Medical Colleges, 2011). Although allopathic and osteopathic medical practitioners increasingly recognize the role of lifestyle, diet, and exercise in maintaining health and the prevention of disease (American College of Preventative Medicine, 2009; Mehrotra, Naimi, Serdula, Bolen, & Pearson, 2004; Pereira & Franz, 2008), naturopathic physicians have been utilizing this approach to clinical care for over 100 years (Pereira & Franz, 2008).

Naturopathic philosophy of practice is succinctly stated in the six principles of naturopathic medicine. These principles guide naturopathic medical treatments, and could be applied in integrative settings to organize the use of conventional treatments with CAM therapies.

1. The Healing Power of Nature (*Vis Medicatrix Naturae*).

The body has an inherent capacity to maintain health; treatments guide and support this capacity.

2. Identify and Treat the Causes (*Tolle Causam*).

The naturopathic physician promotes healing by addressing the root cause of an illness.

3. First Do No Harm (*Primum Non Nocere*).

Interventions should be as noninvasive as possible and proceed to more disruptive and potentially harmful treatments only when necessary.

4. Doctor as Teacher (*Docere*).

The role of the naturopathic physician includes educating the patient, involving him or her in the healing process and essential physician/patient partnership.

5. Treat the Whole Person (*Tolle Totum*).

All aspects of an individual's health including mental/emotional, behavioral, genetic, structural, environmental, social, and spiritual factors need to be taken into account.

6. Prevention.

Prevention of future illnesses and optimizing wellness is imperative. Prevention is more cost-effective health care and less stressful to patients than treating chronic disease.

NATUROPATHIC MEDICAL EDUCATION

A doctor of naturopathic medicine (ND) is trained as a primary care provider (PCP) in a 4-year program that parallels the curriculum and licensing of allopathic and osteopathic physicians. Five of the seven accredited naturopathic medical schools in the United States and Canada were on the Princeton Review's

publication: “The 168 Best Medical Schools, 2010 Edition. (Stoll, 2009)” Students sit for standardized examinations, the Naturopathic Physicians Licensing Examinations (NPLEX), in the basic sciences after the first two years of training and a clinical competency examination after four years of training.

Naturopathic physicians are trained in conventional medicine as well as nonconventional medical practices. In addition to physiology, pathology, pharmacology, evidence-based medicine, and minor surgery, NDs are also instructed in the use of their time-honored modalities, including botanicals and nutraceuticals, lifestyle medicine such as diet and exercise recommendations, mind-body training, physical medicine, hydrotherapy, homeopathy, and counseling (Kirchfeld & Boyle, 1994; Zeff, Snider, & Pizzorno, 2006). Although they are trained in these modalities, not every naturopathic physician utilizes every modality, and conversely practitioners that utilize these modalities do not in effect become naturopathic physicians. Naturopathic medicine is defined by its philosophical underpinnings rather than methods or treatment modalities. Post-graduate specialty training in programs such as clinical residencies, internships, and research fellowships are relatively few but increasing (Neall & Hudson, 2002; Association of Accredited Naturopathic Medical Colleges, 2011).

LICENSURE OF NATUROPATHIC PHYSICIANS

Naturopathic physicians are licensed or registered as primary health care providers in 17 states, including Alaska, Arizona, California, Connecticut, District of Columbia, Hawaii, Idaho, Kansas, Maine, Minnesota, Montana, New Hampshire, North Dakota, Oregon, Utah, Vermont, and Washington. They are also credentialed in the U.S. territories of Puerto Rico and the Virgin Islands and the Canadian provinces of British Columbia, Manitoba, Ontario, Nova Scotia, and Saskatchewan. Efforts to achieve licensure or registration are underway in most unlicensed states. All states and provinces with licensure laws require a residential training program of at least 4 years and 4,100 hr of study from a college or university recognized by the Council on Naturopathic Medical Education (CNME) (Bastyr, 2011). Naturopathic physicians are eligible to hold mid-level practitioner DEA numbers in the states that include scheduled drugs in the ND formulary. The scope of practice varies by state; currently naturopathic physicians are able to utilize their full training in only 6 of the 17 licensed states. NDs receive training in immunology and the use of vaccinations; however, vaccinations are not currently in the scope of practice of every state. State legislative efforts usually increase the scope of practice over time. For example, Oregon’s formulary was increased in January 2010 to include most synthetic pharmaceuticals (Oregon Board of Naturopathic Medicine, 2011).

Some NDs chose to practice in states without legislation. In these cases, the naturopathic physician usually holds a license from one of the licensed states. They neither present themselves as a physician nor touch their patients, diagnose conditions, or otherwise act as a licensed professional. They frequently limit their practice to that of a health advisor and counsel their patients on nutrition, lifestyle, and sometimes botanicals and other dietary supplements. Even with such a limited scope of practice, unlicensed NDs are sought after for their expertise and extensive training in these modalities.

Naturopathic physicians are licensed to provide primary care in Alaska, California, Montana, New Hampshire, Utah, and Vermont. In Vermont, NDs constitute 6% of the state's PCPs and their services are eligible for Medicaid reimbursement. Efforts are underway in many other states to include NDs in Medicaid coverage. NDs may be credentialed providers with private insurance companies. However, the National Committee for Quality Assurance (NCQA)'s current position is to not credential naturopathic physicians. Including NDs in Medicare and other insurance coverage may impact the national shortage of PCPs. Naturopathic physician's training in the prevention and treatment of chronic disease might reduce the national burden of chronic care.

HISTORY OF NATUROPATHY

Naturopathic medicine in the United States has developed in three recent historical periods. Early nature doctors of 19th century Europe utilized air, water, diet, herbs and sunshine in the nature cure system. Naturopathy in 20th century America included nature cure but also added spinal manipulation, homeopathy, and other natural therapies including mind-body techniques (Kirchfeld & Boyle, 1994). Modern naturopathic medicine involves the application of these approaches as informed by modern scientific theory and includes the use of pharmaceutical agents, incorporation of basic science research, and the application of evidence-based medicine (Zeff, Snider, & Pizzorno, 2006).

Naturopathic medicine in the United States began in 1902 through the efforts of Benedict Lust, MD. Dr. Lust was first trained by prominent Nature Cure practitioner Father Kneipp in Europe, and brought this knowledge to the United States where he then trained as an MD (Kirchfeld & Boyle, 1994). The profession enjoyed a relatively rapid rise; and by the 1940s, there were 12 four-year naturopathic medical schools, and the profession achieved licensure in about one third of the States. However, this rise was followed by a decline after the death of Dr. Lust so that by 1956 only one school, the National College of Natural Medicine (NCNM) in Portland, OR remained with enrollment under 10 students per year. Several factors might explain this decline, including the advent of biomedical technology, direct opposition from conventional practitioners to heterodox systems of healing, and the repeal of naturopathic licensure laws.

Since its nadir in 1956, naturopathic medicine has experienced resurgence in popularity because of consumer demand for safe, personalized, cost effective, natural, and potentially drugless health care and the inability of biomedical science to effectively address chronic disease. In the mid 1970s, a new school was founded in Seattle, WA, the John Bastyr College of Natural Medicine named after the eminent naturopathic physician John Bastyr. Dr. Bastyr provided a model for incorporating modern science into naturopathic medical education. Dr. Bastyr's vision of the modern naturopathic physicians was one who "culls the latest findings from the scientific literature, applies them in ways consistent with naturopathic principles, and verifies the results with appropriate studies (Zeff, Snider, & Pizzorno, 2006)."

NATUROPATHIC PRACTICE

Naturopathic physicians view symptoms as expressions of an underlying dysfunction of the psychophysical organism, and therefore, it is the dysfunction rather than the symptom that must be ultimately resolved. The naturopathic physician strives to identify and resolve disturbances to health by supporting the body's inherent capacity to maintain optimal function. NDs address the complexity of individual patients, including physical, mental, emotional, genetic, environmental, social, and spiritual factors. Treatment initially may palliate a particular symptom, but must ultimately address the underlying imbalance or imbalances, which may have originated in physical, behavioral, or emotional processes. Resolution of illness is often achieved through a wide variety of treatment modalities not limited to pharmaceuticals or nutraceuticals in conjunction with lifestyle recommendations such as therapeutic diet and exercise.

Prescriptions are individualized based on the needs of the patient. In the rare case that a pharmaceutical and herb possess identical safety and efficacy profiles for treating an underlying imbalance identified by naturopathic principles, a naturopathic physician would consider other factors such as easy of delivery, cost to patient, effect of producing the therapeutic on the environment, and the utility of the therapeutic for supporting a lifestyle conducive to health. Once the underlying imbalance or imbalances are addressed and a patient is stable, medications or other interventions are frequently no longer required. The goal of the naturopathic approach is a complete resolution of illness with maintenance of wellness through expert lifestyle modification.

The following example of a ND approach is highly stereotyped and it also must be noted that various NDs may achieve resolution and prevention of future illness with alternate protocols. If a patient presented to a ND with indications of metabolic syndrome (Alberti, Zimmet, & Shaw, 2005), the ND would follow the standard of care and attempt to address presenting symptoms that may include as hyperinsulinemia, hyperlipidemia, and hypertension with lifestyle modification (Rosenzweig, Ferrannini, & Grundy, 2008; Stull, Cash, Johnson, Champagne, & Cefalu, 2010). In conjunction with therapeutic diet and increased physical activity, the ND may offer a pharmaceutical agent to aid in glucose metabolism or reduce blood pressure if they deem this necessary. In addition to pharmaceuticals and lifestyle changes, the ND has expertise in other modalities with a long history of use and a growing evidence base. Supplementation with botanical extracts (Prasain, Carlson, & Wyss, 2010), nutrients (Abeywardena & Patten, 2011), appropriately increasing omega three long-chain fatty acids from diet and supplements (Mooren et al., 2011), as well as administering mind-body interventions (Anderson & Taylor, 2011; Innes, Bourguignon, & Taylor, 2005; Innes, Selfe, & Taylor, 2008) may all be appropriate additional treatments. Multiple modalities may be necessary to resolve the symptoms, however, ideally most interventions will eventually be removed and the health of the patient will be sustained by their efforts at maintaining a health promoting lifestyle that includes appropriate diet, exercise, stress reduction, and other self-administered forms of care.

Naturopathic Use of Nutraceuticals

Naturopathic physicians frequently prescribe botanicals, vitamins, minerals, and glandulars in conjunction with other lifestyle interventions (Fleming & Gutknecht, 2010). Prescription or self-medication with multiple nutraceutical agents in the absence of a comprehensive treatment strategy is discouraged (Boon, Cherkin, & Erro, 2004). Unfortunately, in non-naturopathic practices, nutraceuticals are frequently taken in excessive quantities (Gardiner, Kemper, Legedza, & Phillips, 2007; Gardiner et al., 2007; Levine et al., 2009; Loya, González-Stuart, & Rivera, 2009), often without other interventions. This practice is in error. Relying on supplements or drugs alone may not resolve the underlying imbalance. In addition, self-medication could be dangerous because of the possibility of herb and drug interactions (Bauer, Elkin, Erickson, Klee, & Brennan, 2002).

Synergistic Treatment: Complex Effects

Treatment recommendations such as diet, exercise, and botanicals may initially appear simple and even antiquated. However, modern science is helping to elucidate the mechanisms of the therapeutic effects of these interventions. For example, the NF-E2-related factor 2 (Nrf2) intercellular signaling pathway is believed to be a controller of antioxidant response and is related to many aspects of illness, including cancer formation, cardiovascular disease, and renal disease (Singh, Vrishni, Singh, Rahman, & Kakkar, 2010). Currently, pharmaceutical products are in phase II trials to modulate Nrf2. Interestingly, a number of basic naturopathic interventions have been shown to up regulate this pathway (Aggarwal, 2010; Martín-Montalvo, Villalba, Navas, & de Cabo, 2011; Na & Surh, 2008; Zhao, Moore, Redell, & Dash, 2007). Simple treatments such as including cruciferous, sulphoraphane containing vegetables or supplements in the diet (Zhao et al., 2007), utilizing botanicals such as green tea (Na & Surh, 2008) and curcuma (Aggarwal, 2010), employing regular exercise, and dietary calorie restriction positively effect Nrf2 (Martín-Montalvo et al., 2011). These interventions are simple to apply and besides modulating Nrf2 there may be other benefits to health. Not only is the evidence compelling, but this approach appeals to common sense. We all know, or at least were told by our parents or grandparents, that it is healthy to eat vegetables, get exercise, and avoid over eating. It appears that treatments based on discriminating choice of select nutraceuticals with diet and lifestyle modifications can affect the targets of pharmaceutical agents currently in development. Naturopathic practitioners employed similar treatments over 150 years before Nrf2 was identified (Kirchfeld & Boyle, 1994).

PRIMARY CARE AND INTEGRATIVE PRACTICE

Naturopathic physicians' training and scope of practice allow them to practice as independent Primary Care Providers (PCP), or as specialists on an integrative treatment team. Like any PCP, NDs utilize modern laboratory testing, diagnostic techniques, and offer the standard of care to patients. Additional training in other treatment modalities provides the naturopathic physician the expertise needed to administer and manage alternative treatments in the context of standard care. This skill set is an asset to modern health care systems. Patient demand for and

utilization of nonconventional treatments is increasing and their improved outcomes are reported in medical centers that incorporate alternative modalities (Frenkel et al., 2010). Naturopathic Physicians can function as a bridge between conventional and Complementary and alternative medicine approaches to healing and assure that a patient is receiving congruent care, and that the treatments are synergistic for the patient and not antithetical or harmful in combination. Integrative care teams are increasing in primary care settings as well as larger institutions such as the Complimentary and Integrative Medicine (CIM) program at the Mayo Clinic in Rochester, MN. Woodwinds CIM department in Woodbury, MN; Cancer Treatment Centers of America three campuses, and the Providence system's CIM department in Portland, OR are three of many integrative teams that include naturopathic physicians.

CONCLUSION

Naturopathic physicians possess training that allows integration of modern scientific knowledge and the age-old wisdom of natural healing techniques. Naturopathic philosophy provides a framework to implement CAM in concert with conventional therapies. Naturopathic treatment plans combine standard of care treatments with skillfully chosen CAM modalities; the naturopathic physician's expertise in both types of medicine allows a practice style that provides for the healthcare consumer's demand for effective CAM modalities while utilizing modern research and evidence-based medicine.

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ABOUT THE AUTHORS

Andrew Litchy is a Naturopathic physician, graduate of the National College of Natural Medicine in Portland, OR. He completed his undergraduate degree in Physiology at the University of Minnesota. He is a meditator and instructor of Samatha Vipassana. His special interests include traditional Naturopathic philosophy and the physiologic correlates of meditation training.

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