

The Breadth and Depth of Naturopathic Research

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Over the last five years, the World Naturopathic Federation (WNF) has undertaken the task of determining the breadth and depth of research available to support naturopathic practice. This initiative has had some significant results, including the recognition that believing naturopathic practice is not supported by research is outdated. The following highlights the information that the WNF has gathered on naturopathic research.

TYPES OF RESEARCH

Four main types of research are used to support a healthcare practice:

- **Traditional research** includes the research passed down by naturopathic elders, information in naturopathic texts, and the knowledge gathered through practice.
- **Borrowed research** is the research that others have done on aspects of naturopathic practice.
- **Research done by the profession** encompasses the case studies, reviews, original clinical research, surveys, and other research studies conducted by the naturopathic community.
- **Research done on the profession** is a sign of professional development and recognition, when naturopathic practice is included in the research done on traditional, complementary and integrative medicine (TCIM) by other researchers and/or when naturopathy/naturopathic medicine is included in prevalence-of-use studies and other surveys and research done by governments.

Traditional Research

There has been ongoing debate in the naturopathic profession over the last decade concerning a move away from traditional knowledge as the basis for naturopathic practice. In 2020, the WNF supported an international survey examining naturopaths'/naturopathic doctors' approach to sharing and using knowledge and information related to their clinical practice. The survey was translated into five languages and resulted in 548 responses from naturopaths/naturopathic doctors around the world. The results indicated a very balanced mix of using scientific knowledge and

traditional knowledge.¹ For example, participants most commonly reported using information published in scientific journals (76.2%) to inform the care they provided to their patients, and most of the participants who used this information source reported doing so “most of the time.” Information provided by the patient was selected by participants as a source that they used (64.6%), yet the majority (81.7%) of the participants who use that information indicated they “always” do so. The knowledge types reported by participants as used to inform patient care included knowledge developed through clinical experience (86.2%, $n = 412$), initial clinical training (81.2%, $n = 388$), continuing professional education delivered by an expert clinician (79.9%, $n = 382$), consideration of the patient’s unique needs (78.7%, $n = 376$), and discussions with professional peers (75.7%, $n = 362$). The survey highlighted that not only do naturopaths/naturopathic doctors use traditional knowledge they also provide patient-centred care as part of their practice.¹ The charts below provide an estimate of how the research supporting naturopathic practice has changed over the last 20 years (see Figures 1 and 2).

The change in traditional knowledge is more about the tremendous expansion in borrowed research and research conducted by the naturopathic profession than it is about a move away from traditional knowledge. The total body of research is greatly expanding, and research designs are now incorporating holistic, vitalistic and complex naturopathic care, and assessing more accurately the uniqueness of naturopathic practice.

Borrowed Research

Every aspect of naturopathic practice and education is influenced by the research done by other professions and other systems of medicine. Naturopathic medicine borrows research to support the mind–body connection and the important link between a patient’s psychological state and their health. Borrowed research includes supporting the role of a healthy lifestyle, applied and clinical nutrition, herbal medicine, naturopathic manipulation, acupuncture and other forms of naturopathic physical medicine, intravenous therapy and injection therapies (meso- and prolo-therapy), as well as all aspects of environmental medicine and areas such as non-communicable diseases and their link to

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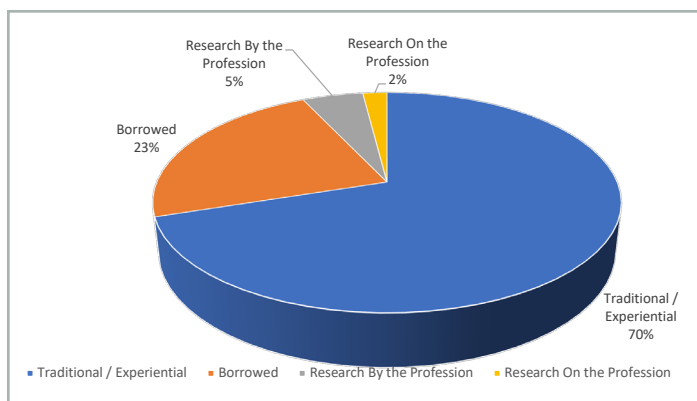


FIGURE 1 Research support for the naturopathic profession in 1999 (estimate)²

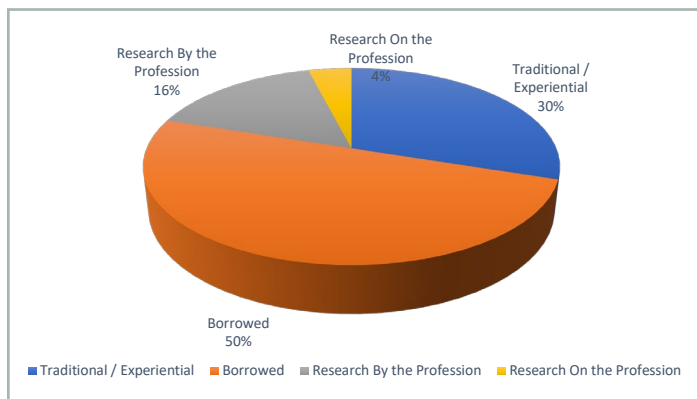


FIGURE 2 Research support for naturopathic profession 2020 (estimate)²

lifestyle factors or research on complex systems theory. Borrowed research is an important aspect of interprofessional collaboration and providing the highest level of care to patients based on the body of available research.

Research Done By the Profession

To determine the research done by the naturopathic profession, a bibliometric analysis was conducted from 2016 to 2018, identifying a total of 2,218 research articles. The criteria for the bibliometric analysis included research that was published in an indexed peer-reviewed journal and conducted by naturopaths/naturopathic doctors.³ Highlights of the bibliometric analysis are as follows:

- 166 naturopathic researchers were included in the analysis; 31% of the researchers were from the United States and 19% from Canada.
- The majority of the research (53%) was conducted in North America.
- 32% of the research was affiliated with naturopathic educational institutions.
- Research designs included: 23% reviews and meta-analysis, 19% interventional trial, 18% observational studies, 16% commentaries, 10% observational trials (see Figure 3).

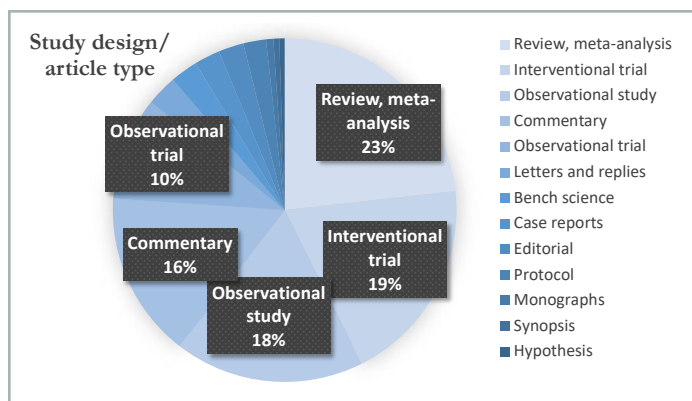


FIGURE 3 Number of naturopathic research articles published per year since 1987

- A broad range of conditions and naturopathic therapeutic modalities or practices were researched (see Table 1).
- Naturopathic researchers are publishing articles in high-ranked journals with over half of all articles appearing in 40 different journals.

The results of this bibliometric analysis were published in early 2021 in the *Journal of Alternative and Complementary Medicine* and identified that the international naturopathic research community has produced peer-reviewed literature for over 30 years and has demonstrated a sustained commitment to codifying existing knowledge, generating new knowledge, and disseminating this knowledge to the wider clinical and research community. It also identified that the naturopathic community is conducting the types of research required for development of an evidence base for naturopathic practice. Figure 4 displays the number of naturopathic articles published per year, revealing a steady increase over the last 20 years, especially in the last decade. Figure 3 shows the breakdown of study designs, indicating that naturopathic researchers are engaged in a range of different types of research.

Table 1 outlines the breakdown of the health conditions covered in naturopathic research and the range of naturopathic therapeutic modalities and practices that were researched. The research

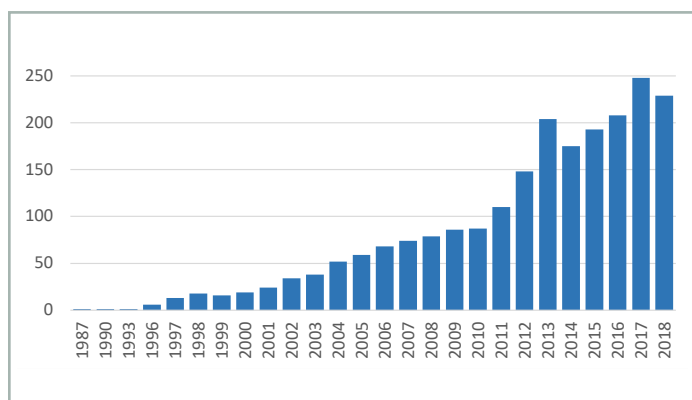


FIGURE 4 Study design and article type

TABLE 1 Characteristics of published articles in naturopathy ($n=2,218$)

Characteristics	N	%
Health condition researched		
Cancer and cancer-related condition	316	14.3
Mental health care and mental illness	273	12.3
Musculoskeletal condition	190	8.6
Neurological condition	151	6.8
Gastrointestinal condition	125	5.6
Female reproductive and sexual health	125	5.6
Cardiovascular condition	100	4.5
Endocrine condition	77	3.5
Infectious disease	71	3.2
Respiratory condition	59	2.7
Weight management	46	2.1
Dermatology condition	37	1.7
General wellness and preventive	32	1.4
Urogenital condition	24	1.1
Ageing and cognition-related disorders	20	0.9
Autoimmune condition	8	0.4
Therapeutic modality and practices researched		
Herbal/botanical medicine	403	18.2
Clinical nutrition, including supplements/nutraceuticals	317	14.3
Explicitly focusing on naturopathy	179	8.1
Yoga	192	8.7
Counseling, meditation, and mind–body medicine	165	7.4
Applied nutrition, including dietary prescription	106	4.8
Manual therapies	91	4.1
Lifestyle and behaviour changes	86	3.9
Acupuncture	53	2.4
Traditional Chinese medicine practices other than acupuncture	42	1.9
Laboratory, pathology or radiology testing	36	1.6
Hydrotherapy	16	0.7
Hormone prescribing	14	0.6
Homeopathy	11	0.5
Ayurvedic medicine other than yoga	11	0.5
Intravenous therapies	5	0.2
Wound care	2	0.1
Chelation therapy	1	0.05
Other naturopathic treatments	26	1.2

conducted by naturopathic researchers is broad, which is reflective of naturopathic practice.

One surprising outcome of the bibliometric analysis was that only 7.6% of the naturopathic research articles explicitly focused on or mentioned “naturopathy.” This partially explains why some people feel that there is not a lot of research to support naturopathic practice.

Along with the naturopathic bibliometric analysis, the WNF surveyed the global naturopathic profession to understand the naturopathic journals and the type of peer-reviewed articles that they

recognize. Members of the WNF identified 22 journals that are primarily focused on naturopathic content.⁴ The survey also revealed that these journals house over 10,000 naturopathic peer-reviewed articles written primarily for naturopaths/naturopathic doctors and other healthcare providers. The breadth of focus on various conditions and therapeutic modalities was similar to the results of the bibliometric analysis. Unfortunately, the majority of research papers were not part of the naturopathic bibliometric analysis as they were not available in indexed journals, which was an inclusion criterion.⁵ This applies to the research papers from *Vital Link*. As the previous editor of *Vital Link*, I am excited to see the changes that are occurring and the commitment of the Canadian Association of Naturopathic Doctors to ensuring that naturopathic research papers are available to a wider audience.

Research Done On the Profession

In 2021, two other bibliometric reports—one on Traditional and Complementary Medicine (T&CM) and one on osteopathy—were also published, and both showed similar trends in increased research over the last two decades.^{6,7} The bibliometric analysis on T&CM identified 172,466 publications (42,331 open access), published by 219,680 authors in 143 journals from 1938 to 2021.⁶ The osteopathic bibliometric analysis identified 389 research articles between 1966 and 2018.

HEALTH TECHNOLOGY ASSESSMENT ON NATUROPATHY (HTA)

The results of the bibliometric analysis, along with 10 surveys of the global naturopathic profession, provided the backbone for the WNF, with the assistance of over 50 naturopathic researchers around the globe, to compile a *Health Technology Assessment on Naturopathy (HTA)*.⁸ The HTA is a 600-page textbook that will be published in the fall of 2021 and will provide governments, educational institutions, naturopathic organizations, individual naturopaths/naturopathic doctors and other healthcare providers a detailed understanding of the breadth and depth of naturopathic practice around the world. The HTA covers the following⁸:

- Naturopathic concepts, including the philosophies, principles, and theories that define the naturopathic profession, as well as an overview of naturopathic practice and the therapeutic modalities and practices that are included.
- The status of naturopathic professional formation, including the history of naturopathy by world region and the status of naturopathic regulation and education around the world.
- An overview of naturopathic research, including challenges and opportunities, the importance of choosing research designs that match the complexity of naturopathic practice, and an overview of the naturopathic bibliometric analysis.

The section outlining the research on the effectiveness of naturopathic practice includes a breakdown of 235 original clinical research articles conducted by naturopathic researchers

highlighting 12 conditions, such as cardiovascular, complex immune, endocrine and women's health. In total, naturopathic researchers have published over 1,456 journal articles in indexed peer-reviewed journals related to health conditions and roughly half of these are reviews and meta-analyses ($n = 357$; 24.5%) or observational studies ($n = 363$; 24.9%).

The section outlining the research on naturopathic therapeutic modalities and practices includes a breakdown of 305 original clinical research articles conducted by naturopathic researchers covering applied nutrition, clinical nutritional, herbal medicine, mind–body medicine, acupuncture, yoga, and other naturopathic modalities and therapies. In total, naturopathic researchers have published over 1,203 journal articles in indexed peer-reviewed journals on naturopathic therapeutic modalities and practices, with a substantial proportion being observational studies, including research using survey, interview, or focus group methods ($n = 195$; 16.2%), and reviews and meta-analyses ($n = 297$; 24.6%).

The *HTA* also provides a look at how naturopathy/naturopathic medicine is used by providing details of an international naturopathic practice survey, community clinic survey, and survey on naturopathic knowledge mobilization, as well as a look at the prevalence of use of naturopathic practice globally and the safety and cost-effectiveness of naturopathic practice.

SUMMARY

The interest in and use of naturopathy/naturopathic medicine is expanding rapidly. In order for the profession to truly take advantage of this growth, naturopaths/naturopathic doctors need to be aware of the tremendous body of research that is available and know how to incorporate it into practice. The time has come for the naturopathic profession to truly shine.

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CONFLICTS OF INTEREST DISCLOSURE

I have read and understood the *CAND Journal's* policy on conflicts of interest disclosure and declare no conflicts of interest.

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REFERENCES

1. Steel A, Leach M, Brosnan C, Ward V, Lloyd I. Naturopaths' mobilization of knowledge and information in clinical practice: an international cross-sectional survey. *BMC Complement Ther.* 2021;21:205.
2. Lloyd I. Update on the Global Naturopathic Profession. WNF Presentation; July 18, 2021; Toronto, Ontario.
3. Steel A, Foley H, D'Souza J, Adams J, Wardle J, Lloyd I. Knowledge dissemination by the naturopathic profession: a bibliometric analysis of naturopath-authored peer-reviewed publications. *J Altern Complement Med.* 2021. <https://pubmed.ncbi.nlm.nih.gov/33798398/>
4. WNF. Naturopathic peer-reviewed journals. <http://worldnaturopathicfederation.org/naturopathic-peer-reviewed-journals/>. Accessed July 18, 2021.
5. WNF. Naturopathic journal report. http://worldnaturopathicfederation.org/wp-content/uploads/2021/01/WNF_Survey_Journal_Articles.pdf. July 18, 2021.
6. Ng JY. Insight into the characteristics of research published in traditional, complementary, alternative, and integrative medicine journals: a bibliometric analysis. *BMC Complement Med Ther.* 2021;21(1):185.
7. Morin C, Gaboury I. Osteopathic empirical research: a bibliometric analysis from 1966 to 2018. *BMC Complement Med Ther.* 2021;21(1):196.
8. Lloyd I, Steel A, Wardle J. Naturopathy—practice, effectiveness, utility, costs, safety. World Naturopathic Federation. 2021. <http://worldnaturopathicfederation.org/health-technology-assessment-hta/>