

Evidence-Based Practice Attitudes, Skills, and Usage Among Canadian Naturopathic Doctors: A Summary of the Evidence and Directions for the Future



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ABSTRACT

Evidence-based practice (EBP) is a framework aimed at facilitating the delivery of best practice care. Despite documented benefits, many health professionals have expressed concerns about EBP. Naturopathic medicine has been cited as being in opposition to EBP; however, this is not supported by the evidence. In a recent cross-sectional Canadian survey of naturopathic doctors, respondents self-reported a moderate to high use of EBP and use of a range of sources of evidence to guide clinical decisions. Evidence-based practice skill was reported to be moderately high, and attitudes were predominantly positive. These findings are consistent with other research undertaken on the topic which has identified a shift towards embracing EBP. Canadian naturopathic doctors have indicated a high level of interest in improving their EBP skills, and we present an upcoming opportunity for skill development.

Key Words Naturopathic medicine; naturopathy; evidence-based medicine

INTRODUCTION

Evidence-based practice (EBP) is a framework aimed at facilitating the delivery of best practice care. The framework emerged out of empiricism and scientific worldviews mixed with real-world concerns that new research evidence was not being incorporated into clinical practice in a consistent and timely manner.¹ In fact, it has been observed that it can take approximately 17 years for new research findings to change clinical practice.²

Evidence-based practice, or its precursor term evidence-based medicine (EBM), can be defined as “the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients.” It involves the incorporation of clinical expertise and patient preferences with the best available research evidence.¹ There is mounting evidence to suggest that the use of EBP is associated with improved patient outcomes and patient satisfaction, as well as reduced healthcare costs.^{3,4} Despite these documented benefits, many health professionals, across a variety of fields, have expressed concerns about EBP⁵ and the necessity for a renaissance to refocus on the need to provide useful evidence, context, and clinical expertise for optimal patient care. The objective of this article is to review the evidence related to the use of EBP within

the naturopathic profession, highlighting the results of a recent Canadian survey of naturopathic doctors (NDs), and from there, discuss future opportunities.

Naturopathic medicine is a system of health care that combines modern scientific knowledge with natural and traditional therapeutic approaches. The profession is unified by an approach to care that is guided by a set of six principles. These include an awareness of the healing potential of nature, treatment of the root cause of disease and the person as a whole, the avoidance of harm, the role of the doctor as a teacher, and the importance of prevention. Naturopathic medicine is regulated in six Canadian provinces: British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, and Nova Scotia.⁶ Within Canada, the therapeutic approaches used by NDs include clinical nutrition, lifestyle counseling, acupuncture, botanical medicine, homeopathy, and physical medicine. Naturopathic doctors may use additional modalities in certain provinces, including prescribed substances (such as pharmaceuticals or bioidentical hormones) and intravenous therapy. In North America, naturopathic medicine has an established record of providing effective and safe,^{7,8} cost-effective,⁹ patient-centred and culturally appropriate¹⁰ care. This holds true globally.¹¹

Efforts to improve the use of evidence across many healthcare disciplines have been made in recent years. At the same time, there

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has been increasing attention around the interface of naturopathic principles with modern scientific evidence and the way these different sources of information guide clinical decision-making. This attention has largely stemmed from one perspective: that naturopathic medicine may be averse to EBP,¹² and NDs need to increase efforts to improve either EBP uptake or design.^{13,14}

Criticisms regarding the interface between naturopathic medicine and EBP have largely come from members of other professions,¹⁵ as well as the mainstream media—who to date have been heavily critical of naturopathic medicine.¹⁶ Additionally, a commentary put forth by members of the profession has called for the addition of a seventh principle related to critical analysis.¹⁷ Logan et al. suggest this is a necessary addition to the existing principles in order to guide an increase in structured critical appraisal and EBP use among NDs. The publication reviews some of the history of naturopathic medicine in North America and highlights the presence of mistrust in scientific consensus, use of fad-like therapeutic approaches, medical misinformation, and a lack of critical appraisal.¹⁷ The authors suggest that naturopathic medicine's history and emphasis on expert opinion have slowed its evolution into a contemporary mainstream profession. As in many other professions,¹⁸ concerns about the need for increased EBP knowledge and skill among NDs are legitimate; however, the intimation that the profession is in *opposition* to EBP is not consistent with the published evidence on this topic.

CONTEXTUAL RESEARCH ON EBP IN NATUROPATHIC MEDICINE

Over the past several years, efforts have been undertaken to understand the role of EBP in the practice of naturopathic medicine as well as the attitudes towards EBP among members of the profession. In 2018, a survey of Canadian NDs was undertaken by the Naturopathy Special Interest Group of the Interdisciplinary Network of Complementary and Alternative Medicine Research (INCAM).¹⁹ The primary purpose of the survey was to explore the level of ND participation in the conduct of research as well as interest in, need for, and barriers to participation. The survey queried the 201 respondents on their beliefs related to EBP, such as the importance of defining outcomes, the importance of critical evaluation, and the importance of using evidence to improve the delivery of clinical care. Respondents reported a high level of agreement, with 84% to 100% of participants supporting each statement. Although these results suggest favourable attitudes, they did not assess the use of EBP or the level of EBP skill possessed by participants. The survey was also limited by a relatively small sample size and the risk of selection bias, as individuals more interested in the conduct of research, as well as the use of EBP, may have been more likely to complete the survey.

INSIGHTS FROM RECENT RESEARCH

More recently, a large multi-national initiative was undertaken to gain insight into EBP engagement, preparedness, and perceptions among complementary medicine practitioners (the Evidence-Based Practice in Complementary Medicine [EPICENTRE] Project).

One component of this project involved a national cross-sectional survey of Canadian NDs.²⁰ The invitation to participate was circulated early in 2020 through the newsletters of the provincial associations and the Canadian College of Naturopathic Medicine. Additionally, invitations were shared in virtual communities of practice. A total of 223 participants completed at least 20% of the survey and their data were included in the analysis.

Participants of the EPICENTRE-Canada study for the most part were aged 30 to 39 and female, had graduated within the past 10 years, and had been practicing naturopathic medicine for 16 to 30 hours per week. Further, most respondents held a naturopathic diploma/degree as their highest qualification and had practiced in a clinical setting with other complementary and alternative medicine providers, mostly in an urban location.

The survey used the validated Evidence Based Practice Attitude and Utilisation Survey (EBASE) to assess the frequency with which respondents engage in EBP activities, their self-reported level of skill, and their attitudes towards EBP.²¹ The median EBP use subscore was in the moderate to high range, with the majority of participants reporting a high level of use of online search engines and online databases. In terms of the type of evidence used, most respondents reported high usage of traditional knowledge and published clinical evidence, and infrequent use of laboratory evidence and trial and error. Overall, 71% of participants reported that a moderate or large proportion of their clinical practice was based on evidence from clinical research—which is relatively higher than that previously reported by chiropractors, osteopaths, herbalists, and yoga therapists.²¹⁻²⁴

With respect to EBP skill, the median subscore corresponded to a moderate level. The majority of respondents reported a moderate–high level of skill related to asking about, acquiring, and appraising evidence. By contrast, participants reported a low level of skill related to the conduct of research, which is not surprising given that the participants were mostly clinicians. It is noted that the survey assessed self-reported level of skill and that a test that objectively measured knowledge or skills may have been more accurate.

The median score on the attitude subscale corresponded to a predominantly favourable attitude towards EBP. A large majority of participants responded “agree” or “strongly agree” to statements about EBP being useful, helpful in guiding clinical decisions about patient care, and necessary in the practice of naturopathic medicine. Participants responded similarly to statements that EBP takes into account their clinical decision-making and patient preferences, indicating participants had a high level of understanding of the EBP framework.

The EBASE questionnaire also queried participants about barriers and enablers to EBP. At least two-thirds of participants identified lack of time and lack of evidence in naturopathic medicine as minor to moderate barriers. Furthermore, 40% to 60% of participants also identified lack of resources (such as online databases) and an insufficient level of EBP skills as barriers. With respect to enablers, access to the internet and free online databases were rated highly, as was the ability to download full-text journal articles.

QUALITATIVE RESEARCH

To date, there have been limited qualitative analyses of Canadian ND attitudes towards EBP. However, such research has been conducted at an international level. A recent qualitative study involving American NDs suggested that views of the profession towards EBP have transitioned recently “from hesitancy to cautious embrace.”²⁵ While most participants reported a generally favourable perception of EBP, there was significant diversity of attitudes within the profession. This is consistent with findings from a recent Canadian survey.²⁰ Notwithstanding, other qualitative studies have revealed more cautious views among NDs.

In a 2011 study involving Australian naturopaths, participants expressed concerns that scientific evidence could undermine traditional knowledge.²⁶ More recently, a theme of needing to find a balance between traditional and scientific knowledge was identified in a study involving ND students and faculty members from North America and Australia.²⁷ The importance of finding a balance between different sources of information appears to be a critical consideration for NDs.

In a recent survey of Canadian NDs, participants reported a high level of use of diverse information sources, including clinical evidence, traditional evidence, and patient preference.²⁰ This ability to integrate and combine different sources of information is consistent with the framework of EBP. A commentary on the role of EBP in naturopathic medicine suggested that recent efforts aimed at “teaching and applying EBM while honoring the philosophical and empirical tradition of naturopathic medicine has served to strengthen the profession overall.”²⁸

While the findings from these aforementioned studies are promising, there is still room for improvement. A Canadian study undertaken in 2015 conducted focus groups with students undergoing medical, chiropractic, and naturopathic training in order to understand the development of perspectives related to pediatric vaccination.²⁹ Insights that emerged included the influences of both education and informal socialization as well as a pattern of “uncritical” acceptance of the views of respected or senior members of the profession. These findings suggest that opportunities to improve critical analysis, or a more structured approach to documenting and assessing traditional knowledge, may be warranted so that students and members of the profession are skilled at viewing information through a lens of weighing and evaluating alternate or conflicting sources of evidence.

DISCUSSION

The evidence to date points to a possible change in NDs’ attitudes towards EBP over time. This has been noted in the qualitative studies. However, as the two Canadian quantitative studies were cross-sectional and took place within the span of two years, they do not shed light on the progression of attitudes over time. No studies have been conducted to assess other ways of knowing or approaches used by NDs in adopting knowledge within the clinical encounter.

At the Canadian College of Naturopathic Medicine, significant efforts have been made to increase the development of EBP skills in the curriculum; the college has also hosted an annual research day, showcasing the research of faculty and students for the past five years.³⁰ Courses teaching EBP skills have an established presence in the curriculum at naturopathic medical education institutions, and these skills have been incorporated into the core competencies of the profession. Members of the profession have spoken out publicly about the value of EBP, stating, for example, that “EBM is a wonderful tool, and is here to stay... its application will strengthen our profession and improve our clinical effectiveness.”²⁸

There are many arguments in favour of EBP; for instance, EBP promotes a spirit of inquiry and can facilitate increased consistency of care within and across professions.³¹ Evidence-based practice also emphasizes the development of critical appraisal skills, which are important in navigating the scientific literature, where conflicting findings and biased results are frequently present.³² It has been posited that EBP is a structured method for self-directed life-long learning³³ well-placed to address the inherent challenges of false attribution, recall bias, inconsistent follow-up and small sample sizes that can be associated with clinical experience alone.³⁴ Additionally, EBP can increase transparency and accountability of decision-making, increase healthcare efficiency and increase professional credibility.³⁵

However, the use of scientific evidence in naturopathic medicine, and health care more generally, is not without limitations and criticisms. Often cited is the relative lack of clinical trials of naturopathic modalities, which could lead to undervaluing or underuse of these modalities if a rigid approach to EBP is used.^{31,36} Randomized controlled trials (RCTs) are an important source of evidence in EBP; however, they have significant limitations. Clinical trials often aim to answer a clearly defined question and use narrow participant inclusion criteria to do so; however, this may exclude complex, multimorbid patients who are common in clinical practice, limiting the applicability and translatability of findings to individuals in the real world. It has been recognized that vulnerable populations, such as individuals with low income or who are part of minority groups, are often under-researched, resulting in evidence that does not adequately support decision-making in these populations, compounding health inequalities.³⁷ Furthermore, RCTs have limitations when used to study complex, multimodal, and individualized treatment approaches.³⁸ An important consideration related to EBP is the possibility of limiting the diversity of sources of knowledge and invalidating ways of knowing other than the RCT, such as history, theory, and philosophy³⁹; however, it is noted that the framework of EBP includes a range of sources of evidence and that a number of concerns about EBP stem from misunderstanding its definition. When American NDs were asked to define EBM in a 2017 study, NDs who described it more broadly (such as including numerous sources of evidence) also expressed less hostile views towards EBP.²⁵ While scientific evidence and clinical experience both possess strengths and limitations, it has been proposed that EBP can be thought of as a blending of these sources of knowledge in a way that maximizes the merits of each.³⁴

CONCLUSIONS AND FUTURE DIRECTIONS

An important consideration moving forward is finding ways to support Canadian NDs in developing EBP knowledge and skills in a way that is appropriate and tailored. In the EPICENTRE-Canada survey reported above, an overwhelming majority of Canadian NDs (93%) indicated that they were interested in improving the skills needed to incorporate EBP into their clinical practice. This may suggest that Canadian NDs both are interested in EBP and have insight into their EBP-related skill deficits.

Responding to this skill development opportunity, a team of researchers is currently undertaking an EBP continuing education (CE) project in Canada. Over the summer of 2021, the team will be completing a co-design process in which 18 Canadian NDs will attend focus groups and provide feedback on their needs, interests, and preferences for an EBP CE course. The team will then amalgamate this feedback, together with best practices in EBP education, to create a CE course that is tailored for Canadian NDs. The course will be offered through the CCNM continuing education department in the coming months. As part of the research project, the team will be asking course participants to complete questionnaires before and after the CE initiative in order to capture changes in skills, behaviours, and attitudes. These data will help further our understanding of the educational needs of NDs, as well as facilitate improvements in the course for subsequent delivery.

The role of evidence in the practice of naturopathic medicine in Canada is complex and evolving. Overall, there is evidence of a strong degree of acceptance and use, as well as interest in further opportunities for skill development, which we hope to facilitate.

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CONFLICTS OF INTEREST DISCLOSURE

We have read and understood the *CAND Journal's* policy on conflicts of interest disclosure and declare the following interests: MA, KC, and ML are involved in the creation and delivery of continuing education on EBP skills for naturopathic doctors that may involve direct or indirect personal benefit.

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