Use of complementary and alternative medicine in children: research opportunities and challenges in an ever growing field

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Abstract

The use of complementary and alternative medicine (CAM) continues to rise across the globe and yet there remains a paucity of research underpinning the field; this is particularly evident in the area of paediatric CAM use. The limited evidence base and many unanswered research questions in the field provide a number of opportunities for conducting research into the use of CAM in children; this includes understanding the characteristics of paediatric CAM users, as well as the determinants of CAM use in children and adolescents. These opportunities need to be considered alongside several unique and important challenges if there is to be progressive understanding in the field. Such challenges include access to children and parents, research funding, research capacity, and ascertaining the determinants of parental decision making. Given the numerous research opportunities and challenges that this ever growing field faces, establishing a clear research agenda for key stakeholders in the field is warranted. This paper proposes such an agenda with a view to improving future health practice, education and policy regarding CAM use in children.

Keywords: Parent; children; decision making; complementary and alternative medicine; research agenda

Introduction

There has been a significant rise in complementary and alternative medicine (CAM) use over the last few decades, with increases in both self-prescribed CAM and CAM service use. Captured under the umbrella term of CAM are a large and diverse range of therapies, including chiropractic, massage therapy, naturopathy, vitamin and mineral supplementation, herbal medicine, aromatherapy and homoeopathy. Although there is no universally accepted definition of CAM [1], it could be described as representing holistic models of care, encompassing body, mind and spirit, where the practitioner-client relationship is central to therapy. [2-4] CAM is also referred to as a preparation or practice that is not regarded a part of conventional medicine [2, 5], although this description is somewhat more ambiguous. While CAM continues to grow in popularity, research underpinning CAM is in its infancy. Nowhere is this more evident than in the use of CAM in children, including how and why parents choose to use CAM, or mainstream medicine, for their child. This ever growing field presents numerous opportunities and challenges. The aim of this article is to highlight the growth of CAM in children, and to explore the various opportunities and challenges that this provides to stakeholders of CAM.

Opportunities

Current CAM research

CAM has given rise to many research opportunities due to its high prevalence of use and considerable amount of money spent on these therapies. [6, 7] The limited evidence base (with much of CAM research being limited to low quality studies), and the plethora of unanswered research questions, also present abundant research opportunities. Seizing these opportunities may help to address a number of knowledge gaps in CAM, particularly gaps relating to paediatric CAM use, including: the extent of CAM use in this population, the commensurate resources of this population, the characteristics of paediatric CAM users, and the determinants of CAM use in children and adolescents. These aspects are further explored below.

The growing consumer demand for CAM

CAM is utilised extensively worldwide[7, 8], with prevalence of use ranging from 1 in 8 adults in the U.S.[9] and 1 in 4 adults in the U.K.[10], to 1 in 2 adults in Australia. [6] High levels of CAM use are also reported in the general paediatric population, varying from 1 in 10 children in Finland [11] , and almost 1 in 9 children in the U.S.[12], to 1 in 3 children in Australia. [6] The high

demand for CAM in Western countries presents a number of research opportunities for CAM, particularly in the Australian paediatric population. Notwithstanding, even though the high demand for CAM in Western countries is well documented, there is still a gap in our understanding of the factors that drive this demand; one such example is why CAM use in both the adult and paediatric population is higher in Australia than in other Western countries.

The high prevalence of CAM use in the west also equates with high out-of-pocket costs for many CAM consumers. According to the World Health Organization (WHO), annual out-of-pocket expenditure on CAM ranges from US$2.7 billion in the U.S., to US$2.4 billion in Canada, and US$2.3 billion in the U.K. [7] Similar expenditure on CAM medicines and therapists (i.e. US$1.3 billion) is reported in Australia [6], albeit with a relatively smaller population, which suggests that more money is spent on CAM per capita in Australia than other Western countries. Wardle et al, citing an Australian survey [8], suggest CAM use may represent half of all health consultations and half of all out-of-pocket health care costs in Australia. [13] Apart from what might be the most obvious reason (i.e. the high prevalence of use), the factors contributing to the high expenditure on CAM in Australia have not been adequately explored. There is also a paucity of research to date that has examined the cost to parents in providing CAM treatments to their children. Investing in such research would be valuable for several reasons; it furthers our understanding of what parents are willing to pay, and to what extent parents value these products and services, to maintain or improve the health and wellbeing of their child.

While the use of CAM in Australia and most Western countries is burgeoning, this has not been complemented by increasing research in the field. [13, 14, 15] There continue to be considerable gaps in terms of the precise estimates of CAM use in Australia, including the use of CAM in children. In addressing these knowledge gaps, an opportunity exists to further our understanding of health care utilisation in Australia, the expressed demand for certain CAM and conventional health care services, and the needs and behaviours of Australian health consumers.

The CAM consumer

Evidence suggests that CAM users differ from non-CAM users in several ways. Sociodemographic characteristics appear to be the main point of difference, with studies consistently demonstrating that CAM users are more likely to be highly educated, middle-aged, female, in paid employment, often in poorer health, belonging to certain ethnic groups and residing in metropolitan areas. [6, 8, 9, 12, 16-25] This somewhat challenges common anecdotal perceptions that CAM users belong to a particular social and/or demographic group. [22]

Another characteristic of CAM users is that they are generally wanting a greater sense of control over their health. [23, 26] CAM users also may take greater responsibility for their health, with data from the Australian Census of Population and Housing (n = 21,501,719) and the Australian National Health Survey (n = 20,788) indicating that CAM users adopt healthier diets and lifestyles relative to non-CAM users, with users reporting greater fruit consumption and levels of physical activity, and lower rates of smoking than non-users. [18] Another interesting characteristic of the Australian and US CAM consumer is that they do not typically avoid medical practitioners [10, 27, 28,] which challenges the assumption that CAM users are anti-mainstream medicine and/or anti-establishment. While studies to date have provided much-needed insight into the typical adult CAM consumer, there is little known about the paediatric CAM consumer.

Parents play an important role in making decisions regarding the use of CAM in children up to 12 years of age. [29] Lending support to this claim are findings from a survey of 3015 South Australians, which found in households with children (n=659), 30.6% of parents had used CAM or CAM therapists for their children, with 7.7% receiving treatment from a CAM therapist. [6] In USA the 2007 National Health Interview Survey found that in adolescents, when parental influence might be considered to be less, the use of CAM actually increases. [12] According to the Australian Bureau of Statistics, in 2004-05 people aged less than 18 years accounted for 9% of all consultations to a CAM therapist, with 66,000 children/adolescents consulting chiropractors, osteopaths, naturopaths, acupuncturists, herbalists or traditional healers. [18] With the increasing prevalence of CAM use, and particularly the self-prescribing of CAM, it is important to gain insight into why and how parents select CAM for their children. To date there has been little research exploring this issue. This research would not only determine the education needs of parents and health professionals, but also inform future policy and practice regarding CAM use in children; the primary purpose being to support child health and wellbeing.

Motivations for CAM use

Factors that motivate persons to use CAM can be broadly categorised into internal and external influences. The internal influences on the decision making process are complex and varied. In the U.S., adult use of CAM appears to be driven internally more by similarity with personal values and belief in CAM than by dissatisfaction with biomedicine. [10] Ernst[24] comments that there are positive and negative internal motivations for people using CAM. Amongst the positive motivations are the need for a natural, holistic approach that is safe and effective, and having a good relationship with the therapist. The internal negative motivations include dissatisfaction with biomedicine due to a lack of effectiveness, the presence of adverse effects, a poor relationship with the therapist, and long waiting lists. [24] Similar factors are reported by Shaw et al, who refer to these positive and negative internal motivations as

push and pull factors, respectively. [30] External factors contributing to CAM use are the costs and benefits as experienced by consumers [10], and the influence of other people, the internet and the media; all of which could be equally regarded as challenges to future research.

It is unknown what factors influence parents to choose CAM for their children when compared with conventional medicine. While it could be hypothesised that the factors influencing CAM use in adults may play a similar role in children, currently there is a paucity of research from which such conclusions can be drawn. In recent years some research has given attention to the use of CAM in children, although this research has been conducted across diverse populations (e.g. Finland, USA, Saudi Arabia, United Kingdom, Turkey) [11, 12, 21, 31, 32], and among a discrete array of child illnesses and conditions, such as autism, Down syndrome, cancer and asthma. [30, 33, 34,35] There has been little research looking at CAM use in Australian children, and in particular, the role of the parent in driving this use. [36]

Challenges

Most of the challenges that confront any investigation regarding the use of CAM in children can be attributed to the issue of access, including access to CAM providers, access to children, access to parents who make decisions about the use of CAM in children, and access to research funding. Developing research capacity is critical also, especially in a fledgling area such as CAM use in children, as research can generate new knowledge that can then be used to develop the CAM profession, inform clinical practice and shape future policy. [15]

In Australia the use of CAM in paediatric health care is not an immediate research priority. In fact, between 2003 and 2012 CAM research represented only 0.2% of all research funding provided by the Australian National Health and Medical Research Council (NHMRC — the Australian government's health and medical research agency). [37] Put another way, only 134 successful research grants exploring CAM were awarded by the NHMRC between 2000-2013, totalling AU$62 million [15] of a possible AU$7.2 billion. [37] It is not clear how much of this funding is targeting children. Interestingly, over half of the chief researchers receiving of these grants were conventional medical professionals and not health professionals with specialist skills in CAM. This is likely to be explained, in part, by the limited research capacity in CAM in Australia.

Accessing CAM service providers for collaborative research purposes may be one way to improve research capacity in CAM although there are several barriers to be overcome if this approach is to be feasible. One such issue is the educational preparation of CAM practitioners. In the past there have been no nationally consistent education standards for non-registered CAM service providers in Australia, with the educational backgrounds of CAM practitioners varying considerably, from no formal qualification through to vocational (i.e. certificate/diploma) and higher education (i.e. degree) qualifications. [38, 39] Whilst it is true that there are no minimum education standards required to practice disciplines such as naturopathy, Western herbal medicine and nutritional medicine in Australia — due in part to the absence of professional registration — recent changes by the Skills Council of Australia mean that a Bachelor Degree will soon be the new minimum standard for providers training these disciplines. [40] Further to this, there are more than 100 different professional CAM associations in Australia, each with their own minimum education requirements for practice. [41] This is in contrast to the registered CAM professions, such as chiropractic and osteopathy, for which the minimum standards for education and practice are stipulated by a single governing authority, the Australian Health Practitioner Regulation Agency (AHPRA). This diversity in CAM education and practice can make it difficult for researchers to interact with CAM practitioners, and for CAM providers to effectively engage with high level health and medical research in Australia. [15]

The lack of uniform education standards in CAM can be attributed in part to the limited number of dedicated schools of CAM within Australian universities. There are merely a handful of research departments/centres focusing on CAM in Australia, and almost all of these are housed within non-CAM departments such as public health and nursing. The critical mass of CAM research leaders is also small, which has a direct impact on the extent to which research capacity in CAM can be built.

Accessing paediatric populations for the purpose of conducting CAM research (including experimental and non-experimental research) presents a number of challenges that might explain the limited volume of research on this topic. These challenges relate to two different but equally important issues; treating a child with CAM, and conducting CAM research in children. Both issues need to take into account the influential effects of the child's parents/guardians, significant others and current media trends. To elaborate, because of a child's vulnerability [42], their limited health literacy and cognitive capacity, a child under 16 years of age usually cannot provide informed consent to participate in health research [43], instead, parental consent is required. [44] Having said that, receiving CAM treatment without the express permission of a parent or guardian is highly unlikely due to the access and financial constraints of this population. Whilst parental involvement in the paediatric consent process is of utmost importance, it also has a downside in that it can potentially act as another barrier to the recruitment and retention of participants in health research. [45] This does not mean that research involving children should not be conducted, it just means that more care to manage risks is required. [42]

Accessing the parents of children — the key decision makers for CAM use in children — also poses some unique challenges to CAM research. Parents' decisions relating to their child's health take into account not only the health risks to their child but also the risk of appearing to others to be a bad parent. [46] The decision of a parent to use CAM treatment for their child may not be considered best parenting practice by some mainstream health professionals and public groups, who may deem the parent as being a risk to the child's health and wellbeing. [47]This may create barriers to accessing parents as participants, as they may feel marginalised, fearful and guarded when engaging with CAM research. The process underpinning parental decision making therefore could be considered to have many complex components. These are important obstacles to consider when designing and recruiting participants for CAM research involving parents and children.

A parent's decision to use CAM for their child is also likely to be influenced by interactions with significant others, including partners, friends, health professionals and teachers. In health care more generally, health care decisions are often influenced by family, friends, neighbours [48], parents [49], the internet [50], and health care providers [51]; this is expected to be no different in CAM where therapies are commonly recommended by family members. [29, 32] These external influences on the decision-making process are another unexplored area of research in regards to CAM and the paediatric population.

From an ecological point of view, the media too can play an important role in parental decision-making. Online or lay media, in particular, can influence a person's health behaviour as well as their health decision making; one such example is the decision to vaccinate or not [52], on which the internet has had a profound influence. [50] This is particularly troubling as decisions about CAM can be based on information gained from everyday/lay media, much of which has been reported to be either inaccurate or incomplete. [53, 54] Relying on health professionals who are not trained in CAM but are more readily accessible also may not be an appropriate source of correct or reliable information.

Another aspect of parental decision making and paediatric CAM use that is particularly worrying is that over 50% of people consuming CAM do not inform their medical practitioner of their CAM use. [6, 7] Various explanations for the non-disclosure of CAM use to medical practitioners have been reported in the literature, including concerns about a perceived negative response, a perception that medical professionals do not have sufficient knowledge about CAM, and because medical practitioners do not specifically inquire about CAM use. [55] These perceptions are likely to also impact on a parent's decision whether to disclose CAM usage in their child.

Conclusion

While the use of CAM continues to grow around the world, the research underpinning CAM remains in its infancy. This is due to numerous challenges that confront CAM research, including access to participants, the potential stigma of using CAM in the face of mainstream health care, and the availability of research funding. Despite these challenges, there remains a myriad of opportunities to build the evidence base for CAM. An emergent area where these opportunities present is in the use of CAM in children. Despite consistent evidence of the growing use of CAM in children, there remain critical knowledge gaps in terms of "why" and "how" parents make decisions when using CAM for their child. Research addressing these knowledge gaps may provide useful insights into the decision-making process of the wider (adult) population, thus enabling development of critical new knowledge which can then be used to inform health policy and clinical practice.

Conflict of Interest

The authors have no conflict of interest to declare.

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