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Provision and Access to Information on Complementary and Alternative Medicine: What are the Existing Knowledge Gaps among Users and Practitioners?

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Abstract

Complementary and Alternative Medicine (CAM) usage is increasing in both developed and developing countries. CAM is comprised of medical systems, practices, interventions, applications, theories or claims that are not currently part of the conventional (Western) medical system. It is however acknowledged that many users of CAM are less informed about the benefits and possible side effects they are likely to encounter while using such health care system. This is partly attributed to inadequate documented information and uniformalised channels for information and knowledge sharing on complementary and alternative medicine. A systematic literature review was conducted to examine the current trend of CAM usage as well as provision and accessibility of CAM-related information in order to identify the existing knowledge gaps among CAM practitioners and users. Recommendations on how to address the existing knowledge gaps are provided.

Keywords: Alternative medicine, complementary medicine, information seeking behaviour, developing countries.

Introduction

Increasingly, there is a myriad of health challenges around the world arising from infectious and non-infectious diseases. This trend has partly been attributed to global climate change favouring the development of new strains of disease causing microbes as well as changes in living and eating lifestyles of individuals. For example, more and more people are becoming obese due to their eating habits and sedentary lifestyle, leading to increased non-communicable diseases such as hypertension, diabetes, cancer and sexual dysfunction (Moshi, 2006; Okigbo and Mmeka, 2006; Posadzki *et al.*, 2013). Conventional ways of combating health problems are often constrained such that some people opt for

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alternative or complementary medicine (Bowen *et al.*, 2002; Janamian *et al.*, 2011; Khalaf and Whitford, 2010; Kisangau *et al.*, 2007; Mbwambo *et al.*, 2007; Okigbo and Mmeka, 2006). Sometimes referred to as natural medicine, holistic medicine or non-conventional medicine, the term “Complimentary and Alternative Medicine” (CAM) implies a broad set of health-care practices that are normally outside the Western or conventional health care system (Chan *et al.*, 2012; Peltzer, 2009; Smith *et al.*, 2005, 2005; Tasaki *et al.*, 2002).

Despite available evidence on CAM success in combating people’s health problems throughout the world, there are also concerns that this kind of treatment is often at the user’s own risk due to the fact that often the efficacy and safety of such medicine is unknown (Mbwambo *et al.*, 2007; Mills *et al.*, 2005; Robinson and Cooper, 2007; Shneerson, Taskila, Gale, Greenfield, & Chen, 2013; Williamson *et al.*, 2008). Thus, it is of paramount importance for CAM users to have access to accurate and reliable information on aspects such as types, composition, handling, dosage, side effects as well as benefits and risks involved in the usage of such treatments. This implies that CAM is an information-rich practice that requires reliable provision and easy access to accurate information for informed decision among users and practitioners of alternative medicine.

The current literature is short of aggregated information on the existing knowledge gaps among practitioners and users of CAM. This systematic literature review therefore examined the prevalence and usage of CAM, motivations for CAM usage, and information behaviour of CAM users in order to define the direction for future research as well as information dissemination strategies to inform the public regarding benefits and negative effects of CAM for informed decision making. According to Webster and Watson (2002), a well done literature review may inform the existing body of knowledge accumulated over years and thus contribute to avoidance of duplicating research efforts.

Methodology

Literature search was conducted in August 2014 through LiHab Kiox (discovery tool for scholarly literature) at the Sokoine University of Agriculture in order to retrieve scholarly articles about prevalence and usage of CAM, motivations for CAM usage, information seeking behaviour of CAM users, and barriers to the provision of CAM information. A total of 643 scholarly articles were retrieved. The researchers scanned through titles and abstracts to identify articles deemed more relevant for the study. Finally, 38 scholarly documents accessible at full-text level were selected for literature review. Researchers

analysed the general usage trend of CAM and motives behind users' choice for the alternative treatment option. Analysis of information needs and sources consulted by CAM practitioners and users to meet their information needs was also done prior to providing study recommendations.

Findings

Prevalence and usage of CAM

Documented evidence suggests that CAM is well-known and used throughout the world (Agrawal, 2002; Bowen *et al.*, 2002; Chan *et al.*, 2012; Janamian *et al.*, 2011; Khalaf and Whitford, 2010; Kisangau *et al.*, 2007; Mbwambo *et al.*, 2007; National Center for Complimentary and Alternative Medicine, 2010; Patterson and Arthur, 2009; Singh *et al.*, 2004; Tasaki *et al.*, 2002). According to Allaire *et al.* (2000), the world market for traditional medicine was estimated at USD 60 billion annually. More than 80% of the population in developing countries is reported to depend on traditional medicine for primary health care (Mbwambo *et al.*, 2007; Moshi, 2006). A review of 26 surveys conducted in 13 countries as reported by Humpel and Jones (2006) concluded that, on average, 31.4% of adult cancer patients use CAM.

Specific country studies indicate varying levels of CAM usage. Partha *et al.* (2002) reported that 62% of 162 respondents from Western Nepal had used some form of CAM. Barnes *et al.* (2004) also reported that 62% of American adults employed some form of CAM to manage their health conditions. The National Center for Complimentary and Alternative Medicine (2010) reported that around 3.1 million adults in USA use various types of CAM. Assessing the usage of CAM among diabetic patients in Bahrain, Khalaf and Whitford (2010) established that 62% of 402 respondents had used CAM in managing their conditions. In South Africa, Peltzer *et al.* (2008) reported that 53% of 317 HIV patients had used CAM. These findings are comparable to another study which was done in Chatsworth, South Africa whereby 50% of the respondents reported to use CAM in treating various diseases such as arthritis and joint diseases, headache, hypertension and nasal disorders (Singh *et al.*, 2004). Generally, many reviewed studies indicate that more than 50% of the respondents involved had used CAM during their lifetime.

Studies have also reported on various types of CAM used in different places. A study conducted in Nepal established that Ayurveda, an ancient system of medicine which literally means the science of life, was popularly used by patients (Partha *et al.*, 2002). A study involving 150 Lesbians indicated that majority of them preferred massage therapies (87%) and acupuncture (56%) (Bowen *et al.*, 2002). Allaire *et al.* (2000) established that licensed nurse-

midwives in North Carolina recommended a variety of CAM treatments such as herbal therapy, massage therapy, chiropractic, acupressure, mind-body interventions, aroma therapy, homeopathy, spiritual healing, acupuncture, and bioelectric or magnetic applications. Another study involving 335 respondents in USA revealed that spiritual practices, exercise/movement therapies, special diets, chiropractic and meditation were the most commonly used CAM (McMahan and Lutz, 2004). In South Africa studies indicate that herbal therapies, spiritual practices or prayers were the commonly used CAM in treating patients (Peltzer *et al.*, 2008; Singh *et al.*, 2004). Studies by Allaire *et al.* (2000) and Okigbo and Mmeka (2006) acknowledge the significant contribution of herbal medicine in mortality reduction, morbidity and disability due to diseases such as asthma, HIV/AIDS, malaria, tuberculosis, sickle-cell anemia, diabetes, mental disorders and microbial infections.

Some international bodies and government have formerly recognised non-conventional treatment options. For example, the widespread use of CAM in countries such as Australia, China and USA is partly a result of recognition of the unconventional health system (Allaire *et al.*, 2000; National Center for Complimentary and Alternative Medicine, 2010). In Africa, Christian (2009) reports that the African Union encourages member states to accept and integrate traditional medicine into their public health care system. In Tanzania, the practice and use of CAM is recognised by law through the Traditional and Alternative Medicine Act enacted in 2002 (Kayombo *et al.*, 2007; Mbwambo *et al.*, 2007; Stangeland *et al.*, 2008). There is also an Institute of Traditional Medicine at the Muhimbili University of Health and Allied Sciences which is responsible to, among other functions, conduct research in traditional medicine. A variety CAM clinics and practitioners branded by various names such as "Natural Therapy Clinic", "Chinese Traditional Medicine Clinic" or "Tibambadala" [implying alternative treatment] have been registered in Tanzania. Moreover, there are several multi-national companies such as "Forever Living" and "Tians" which sell CAM products throughout the country.

Motivations for using CAM

There are various factors that drive CAM users to consider getting treatment beyond the conventional health systems. According to Okigbo and Mmeka (2006), medicinal plants are preferred by many people than their synthetic counterparts because they are considered safer, culturally acceptable and suitable for treating chronic diseases. Non-availability of conventional health facilities and services as well as trust on CAM practitioners and lack of side effects were also cited as reasons for users' preference of complementary and

alternative medicine around Pokhara city in Nepal (Partha *et al.*, 2002). A study by Bowen *et al.* (2002) established reasons of anxiety and trust in alternative providers as key motivators of individuals' interest in alternative medicine and complementary medicine. Varghese (2005) established that drivers behind preference of CAM users for choosing complementary medicines were ease of treatment, effectiveness of treatment, cheapness of treatment and influence from friends and relatives. Views from participants in a study by Kim and Chan (2004) further reveal that philosophical congruence [compatibility with existing values], world views [CAM supportive] and spiritual/religious philosophies are motives behind preference of CAM among Korean residents in USA. In a similar study by Singh *et al.* (2004), half of the surveyed CAM users were influenced upon being advised by someone or news from the press. The list of motivators for CAM use is long but it suffices to say that rarely do conventional doctors influence their patients to use such medication, rather it is the patients who seek the doctors.

Despite the fact that many CAM consumers are driven by their trust on safety and efficacy of herbal medicine, it is possible that some consumers are probably ignorant about the harmful effects of some alternative treatment options (Lee *et al.*, 2000; Williamson *et al.*, 2008). Indeed, some studies have occasionally reported undesired effects of herbal medicine including death. For example, Ma-huang, a traditional Chinese medical herb used as a dietary supplement intended for weight loss and treatment for asthma, nose and lung congestion has been reported to cause several health problems including stroke (Kam and Liew, 2002; Samenuk *et al.*, 2002). This does not imply that all medicinal herbs or CAM in general have undesired effects since there are also some established scientific evidence proving efficacy and safety of such products (Allaire *et al.*, 2000; Moshi, 2006; Okigbo and Mmeka, 2006; Runyoro *et al.*, 2006). Studies reporting harmful effects of CAM products in Tanzania are scanty. This is why behind a number of studies call for thorough studies to assess the quality, efficacy and safety of herbal medicine before they are recommended for human use (Mbwambo *et al.*, 2007; Mills *et al.*, 2005; Peltzer, 2009). It is equally important to share findings emanating from such studies for informed decision making among CAM users.

Information Seeking Behaviour of CAM Users

Timely and reliable information is important for CAM users to make informed decisions on choices of CAM treatment options. This is equally important to CAM practitioners as well as conventional doctors who normally attend these patients (Suter *et al.*, 2004). It is important for CAM users to spend their money responsibly as well as avoid consuming products that are likely to cause harm

to their health beyond their expectations. For practitioners and conventional doctors, it is important to have a clear understanding of the range of available CAM products in order to provide reliable recommendations to their patients. Various studies have reported information needs of CAM users and practitioners as well as commonly consulted sources by such groups (Balneaves, 2008; Humpel and Jones, 2006; Janamian *et al.*, 2011; Robinson and Cooper, 2007; Smith *et al.*, 2005; Suter *et al.*, 2004; Tasaki *et al.*, 2002; Williamson *et al.*, 2008). According to Balneaves (2008), CAM customers require accurate information in order to make decisions regarding available treatment options and in deciding whether to use or not to use particular products. A survey by Robinson and Cooper (2007) reveal that CAM users normally seek information on potential benefits of CAM use but are rarely concerned about seeking information on the risks of using such products. Another survey by Suter *et al.* (2004) confirms CAM users inquiring information on the available CAM treatment options but contrary to the former study, in this case patients also wanted to know the associated side effects. Knowing benefits and associated side effects of CAM products is important for users to make informed decisions.

Conventional physicians on the other hand were found to be interested in evidence-based CAM information such as randomized controlled trials and systematic reviews on acupuncture, herbal medicine, massage, chiropractic treatment and meditation (Suter *et al.*, 2004). Similarly, Janamian *et al.* (2011) reported that despite general practitioners having little knowledge of CAM, the practitioners required more information resources containing evidence-based literature, pharmacological and toxicological information. CAM practitioners in Australia expressed information needs in areas of adverse reactions and safe use of CAM on children as well as pregnant and breastfeeding women (Smith *et al.*, 2005). Hence, information needs vary among different groups necessitating studies tailored to each category for targeted information services.

Commonly reported information sources used by CAM practitioners include professional newsletters, seminars runs by manufacturers, patient feedback and personal observation of patients (Smith *et al.*, 2005). The usage of internet and emerging communication applications such as Whats Apps have not been reported in literature although this does not mean that they are not used as sources of disseminating information by CAM practitioners. A study by Suter *et al.* (2004) revealed that majority of conventional physicians were less informed about CAM and that they were less consulted regarding reliable information sources for CAM. Conventional medical doctors often consulted colleagues and online journals in seeking CAM related information (Owen and

Fang, 2003). Users of CAM have been reported to consult a variety of information sources in knowledge seeking (Humpel and Jones, 2006; Robinson and Cooper, 2007; Suter *et al.*, 2004; Williamson *et al.*, 2008). The most preferred sources by patients while seeking CAM information include CAM practitioners, family and friends, Internet, health food shop workers, pharmacists, magazines, self-help books, and package inserts, labels, as well as pamphlets (Humpel and Jones, 2006; Robinson and Cooper, 2007; Williamson *et al.*, 2008).

Despite conventional doctors being cited as one of the information sources consulted by some CAM users, it is acknowledged that in most cases doctors are rarely informed by their patients about their usage of CAM (Humpel and Jones, 2006; Singh *et al.*, 2004). Tasaki *et al.* (2002:212) identified three barriers contributing to that state of affairs as “physicians’ indifference or opposition toward CAM use, physicians’ emphasis on scientific evidence, and patients’ anticipation of a negative response from their physicians”. Breaking this communication barrier between conventional doctors and their patients who are also consumers of CAM is considered important mainly because consuming both CAM and conventional medicine may cause harm to patients due to over dosage or undesired medicinal interactions. To partly address this problem, Robinson and Cooper (2007) recommends the need for conventional health care practitioners to seek for information from their patients about their use of CAM before providing conventional treatment. Generally speaking and based on the reviewed literature, communication platforms for sharing CAM related information is not well established to satisfy the user community.

Recommendations

The reviewed literature on use of CAM and access to related information indicates that there are important knowledge gaps among users and practitioners of alternative medicine including availability of unreliable information for informed decision, inadequate research and scarcity of information on CAM practices. The following recommendations are provided for addressing such gaps.

Less Informed Conventional Doctors about CAM

There is evidence that most of the conventional doctors are not trained on CAM and they lack evidence-based information about the effectiveness of CAM treatment and therefore discourage their patients to utilize such alternative treatment options. This is despite the existence of some proven evidence of successful cases of CAM treatment. Since conventional doctors are cited among sources of information for CAM users, they will not be able to provide

proper advice to their patients unless they are themselves knowledgeable about the benefits and risks associated with CAM treatment. Integrating CAM modules in the traditional medical schools' curricula or as part of continuing education is thus considered important to reduce the existing knowledge gap about complementary and alternative medicine among conventional doctors, which will foster complementarity between the two health systems.

More Investment in CAM Research

Despite the increasing usage of CAM worldwide, the literature review has revealed inadequate research on benefits and risks associated with using such treatment approaches. Evidence-based research on available CAM therapies: benefits, efficacy and harmful effects are important in order to assist medical practitioners to provide proper guidance to users. Such evidence will also assist CAM users in making informed decisions on whether or not to use certain CAM treatment options. Research is also needed on information seeking behaviour of locality specific CAM users in order to design appropriate strategies information delivery strategies.

Enhancement of CAM Related Information Dissemination

It is evident from the reviewed literature that formal sources such as libraries and trusted internet information resources were rarely consulted by both medical practitioners and users of CAM. Reliance on informal sources of information is not desirable due to possibilities of accessing and using misleading information. For example, Smith *et al.* (2005) cites the possibility of obtaining misleading or incorrect information from mass media. Also, information disseminated by CAM practitioners and CAMs' package inserts/labels/pamphlets is likely to be business-biased and less likely to provide the negative side of such treatments. Information professionals should thus make deliberate efforts to ensure that CAM users' information needs are taken aboard along with the traditional health information seekers. Aggregation of various information sources on CAM and making such information available to users should be among the important roles of information professionals. One approach could be collecting information from various sources on proven practices and production of evidence-based CAM fact sheets for dissemination to targeted user communities as recommended by Janamian *et al.*(2011).

Conclusions

There is evidence of increasing usage of CAM as an alternative to the conventional health delivery approach. Various reasons including religious and traditional beliefs, inadequacy of conventional health services treatment effectiveness as well as safety of CAM as perceived the user community have

been cited as important triggers of the paradigm shift from the conventional to alternative and complementary medicine treatment option. Inadequate documented research on proven CAM treatments and unreliable information sources contribute to uninformed decisions in choosing treatment options by CAM users. Apart from increasing the knowledge base of conventional medical practitioners regarding alternative and complementary medicine, investment on research and making research findings available to end users, especially about benefits and undesired effects of a wide range of CAM treatments, is considered important. This study raises important information gaps affecting CAM users in making informed decisions on choosing suitable treatment options. Results of the study may contribute to CAM stakeholders to devise proper strategies of information services geared towards meeting health information needs of those choosing the complementary and alternative medicine.

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