Should complementary and alternative medicine familiarisation modules be taught in African medical schools?

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Abstract: Complementary and alternative medicines (CAMs) are household sources of therapy in African communities. A large percentage of the African population uses CAMs as an alternative to mainstream medicine. This is partly due to tradition, and partly because of inability to afford conventional treatments. In the developed countries, the use of CAMs is gradually on the increase. As a result, certain medical schools in these countries are incorporating CAM familiarisation modules into their undergraduate medical curricula. In Africa, most medical schools have not taught CAM yet. However, in view of the rising use of CAMs by the African populace, and the potential CAM-conventional therapy interactions, there is the need for physicians to get familiar with those CAMs in common use. To achieve this, it is recommended that African medical schools introduce CAM familiarisation modules into the undergraduate medical curriculum. This would fully prepare the 21st century doctors to deliver holistic medical treatment, and thus be at par with the global trend.

Keywords: education, medical; complementary therapies; Africa

According to the United States National Center for Complementary and Alternative Medicine (NCCAM), complementary and alternative medicine (CAM) is defined as a group of diverse medical and health care systems, practices, and products that are not currently considered part of conventional medicine. Complementary medicine describes the use of CAM in conjunction with orthodox medicine, while alternative medicine describes the use of CAM in place of conventional medicine. Another term in current use is integrative medicine. This relies on evidence-based CAMs and combines such CAMs with conventional treatments. As currently practiced, the NCCAM describes CAM to include, but not limit to naturopathy, chiropractic medicine, herbal medicine, traditional Chinese medicine, Ayurveda, yoga, hypnosis, homeopathy, acupuncture, and nutritional-based therapy. In the African context, however, and with reference to Nigeria, CAM largely takes

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the form of herbal medicine. Moreover, in most African countries, CAM practice is not strictly regulated when compared with the practice in the advanced countries. This places the African populace at a higher risk of potential complications that could arise from herb-drug interactions.

Thus, because a relatively large percentage of the African population uses CAMs when compared with Western population\(^1\), it is pertinent to consider the introduction of CAM familiarization modules into the curricula of African medical schools.

1 Are CAM familiarization courses offered in medical schools?

A recent study by Vohra et al\(^2\) showed that certain American medical schools now run educational programmes that incorporate integrative medicine. Such centers offered lectures on CAM to undergraduate medical students, familiarize internal medicine residents with CAM, and survey courses where medical students can learn about CAM. Moreover, certain American medical institutions established an exchange elective, whereby medical students can meet with students from the American College of Traditional Chinese Medicine to teach each other physical examination and medical diagnosis\(^3\).

In addition, America also runs the NCCAM, where public-funded CAM research is conducted. By 2003, 83% of the US primary care medical school faculties had offered CAM courses within primary care curricula\(^4\). In a survey by Brokaw et al\(^5\), the number of US medical schools offering courses on CAM has risen sharply in recent years. These authors studied 74 medical schools. Topics taught in such schools included herbal and botanical medicine (69.9% of the schools), acupuncture (76.7%), chiropractic (60.3%), homeopathy (57.5%) and nutrition and diet (50.7%). Thus, these schools taught a variety of topics under the caption CAM\(^6\). In the word of Verhoeff et al\(^7\), “There is need to build a comprehensive CAM curriculum that interweaves critical appraisal of the evidence, historical and current healthcare trends, and communication skills in such a way that the curriculum can be adapted and shaped by individual schools to suit their own medical programme”.

In Europe, Varga et al\(^8\) undertook a survey of 265 medical schools to ascertain whether CAM was part of their curriculum. Among these schools, only 40% of them had CAM as part of their medical curriculum and training. Their findings underscored the need for physicians to acquire some knowledge on CAM therapy, as the Western population was increasingly aware of the availability of CAM treatment\(^9\). The authors advocated the incorporation of CAM modules into the regular medical curriculum in all European medical faculties.

In the UK, some medical schools offered CAM familiarization courses\(^10\). This was predicted in the mid-1990s, a time when less UK medical schools had CAM courses in place\(^11\). In 2003, the UK General Medical Council emphasized, in its publication Tomorrow’s Doctors, the need to introduce CAM familiarization course into the UK medical school curriculum\(^12\). This view was earlier expressed by the report of the House of Lords’ Select Committee on CAM\(^13\).

In addition, Owen and Lewith reported the attitude of the University of Southampton medical students to CAM familiarization courses\(^14\). These students were offered a one-hour lecture in their first year, presentations in their second year, and special study units in their third year. By doing so, the students could appreciate the relationship between CAM and conventional medicines, and would thus be able to help their patients better. In Wales, Taylor and Blackwell\(^15\) reported that most medical faculties were yet to introduce CAM familiarization courses into their curricula. In their survey of medical students and senior medical faculty in Cardiff and Swansea, 62% of the undergraduate medical students requested the introduction of CAM courses, while 94% of graduate entry students did the same. Unfortunately, little formal CAM teaching was available in each of the locations studied. However, owing to the interest of undergraduate and postgraduate medical students in CAM

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courses, the authors recommended the introduction of CAM into the curricula of these medical schools. In the spring of 2009, a conference on CAM education in German universities was organized by the Carsten Foundation to discuss issues relating to experiences, cooperation and standardization in relation to CAM courses\[21\]. Moreover, a recent study reported that policy-makers at German universities were truly interested in CAM. Unfortunately, CAM was integrated into the medical curriculum to a very limited extent (about 38% of the medical schools studied)\[14\]. Since 2003, naturopathy treatment has been included in the mainstream medical curriculum in Germany\[13\], but the course content and teaching hours varied from one university to another. Even in some of these universities, CAM was optional. In the words of Witt et al\[13\], “If medical schools refuse to teach their students basic knowledge and critical reflections about CAM, they are depriving those students the ability to provide competent and safe patient care in the future”.

In Israel, the use of CAM among the population increased from 6% in 1993 to 10% in 2000\[15\]. A study by Oberbaum et al\[16\] among medical students at the Sackler Faculty of Medicine of Tel Aviv University showed that most medical students welcomed the introduction of CAM modules into their curriculum. Unfortunately, most medical faculties in Israel lacked CAM curriculum, and the authors thus suggested the introduction of CAM familiarization modules into Israeli medical curricula. In the same vein, Hasan et al\[17\] advocated the incorporation of alternative medicine modules into the curricula of medical schools of the United Arab Emirates (UAE). Their survey showed that CAMs were in common use in the UAE.

In Asia, Tsuruoka et al\[18\] undertook a survey of 80 Japanese medical schools to evaluate the degree of integration of CAM curriculum into their medical teaching. Out of these, only 16 medical schools (20%) taught CAM officially. These medical schools had 19 CAM courses (predominantly oriental medical themes), with anaesthesia department offering six of such courses. In contrast, a review by Bodeker\[19\] showed that CAM modules are an integral part of the medical curricula in Asian countries such as China, Vietnam and Korea. Besides, Yeo et al\[20\] evaluated the knowledge, attitude and understanding of CAM among undergraduate medical students in a university in Singapore. About 91% of the students recognized the role of CAM in future medical practice, and they showed interest in CAM education. The authors advocated the need to bridge the gap between conventional medicine and CAM, in order to eliminate the increasing risks associated with a lack of CAM education by medical graduates. In a similar study, Shankar et al\[21\] studied the attitude of undergraduate medical students to integrative medicine in Nepal. Their findings showed that Nepalese students had a positive attitude towards integrative medicine and its incorporation into their curriculum. However, integrative medicine was not a part of Nepalese medical curricula presently, and the authors thus recommended its inclusion into the curricula.

In the West Indies, the report of Maharaj\[22\] showed that the medical curricula were being reviewed to include modules on CAM. At the University of West Indies, medical students took elective courses and seminars on CAM. Similarly, Amadera et al\[23\] reported the teaching of acupuncture to medical students (as an elective course) at the University of Sao Paulo School of Medicine. These authors recommended the teaching of acupuncture, among other types of CAMs, to medical students in Brazil.

The above findings and recommendations from studies in the developed and developing nations support the need to introduce CAM familiarization modules into the undergraduate medical curricula of medical schools, which has not been fully done yet.

2 Use of CAM in Africa

In Africa, 80% of the population depend on CAM, including herbal medicines\[1\]. According to the World Health Organization\[24\], herbal medicines are the first-line treatment for 60% of malaria-infested children presenting with high fever in Ghana, Nigeria, Mali and Zambia. Moreover, among rural Nigerian dwellers, owing to traditional practice on the one hand, and the high cost of quality mainstream medicine on the other, about 85% of the population use traditional herbal medicines\[25\]. Oshikoya et al\[26\] surveyed 318 parents whose children were out-patients at the Lagos State University Teaching Hospital in Lagos. Out of this population, 31% had used one form of CAM or the other. Among these, 84% were on CAM at the time they presented at the hospital. Moreover, the authors reported that 86% of the population that used CAM were ready to discuss this use with their doctors, but the doctors never asked them during their visit to the clinics. The use of CAM was associated with adverse drug reactions in 7.1% of these patients.

Furthermore, Osamor and Owumil\[27\] studied the use of CAM among hypertensives in Idikan community of Ibadan, Nigeria. A total of 440 hypertensive subjects were studied. Among these, 29% used CAM as antihypertensives. Out of these, 21% used garlic, while 63% used other herbal preparations.

Although CAM practitioners (especially herbal medical practitioners) abound in Nigeria, and a large percentage of the population uses CAMs (herbal medicines), formal registration of CAM products is still at a rudimentary stage\[27\]. In addition, advertisement of CAM products is freely done, and many CAM practitioners freely and aggressively announce their products by electronic
means such as radio and television. Open market sales of CAM are also common\cite{27}. This practice encourages unregulated use of CAM by the population, and heightens the risk of developing complications from herb-drug interactions.

Numerous complications that could arise from herb-drug interactions have been reported in the literature. Such reports underscore the need for the 21st century healthcare providers to get acquainted with CAM. This is especially true in Africa where a larger percentage of the population benefits from herbal medicines. A review by Fugh-Berman\cite{28} captured the theme of herb-drug interactions explicitly. Some of the complications that could arise from such herb-drug interactions include increased risk of hypertension when tricyclic antidepressants are used with *Pausinystalia yohimbe*, bleeding from simultaneous use of warfarin and *Ginkgo biloba*, decreased bioavailability of digoxin and cyclosporine when used with St. John’s wort, and induction of mania in depressed patients who use antidepressants with *Panax ginseng*.

3 Introduction of CAM familiarization courses into the African medical curricula

The need for contemporary African medical practitioners to become familiar with the CAM products used by their patients is pertinent, in view of the potential interaction of CAM with conventional medicine in patients who use both interventions simultaneously. Thus, there is an urgent need for African medical schools to include CAM familiarisation courses in their medical curricula. However, this does not suggest that orthodox medical practitioners will begin to prescribe CAM drugs to their patients, but that such physicians will be aware of the common CAM drugs used by the population, and be familiar with those CAM products that are beneficial, or those that are harmful and must be avoided, and those that are of no medical use whatsoever.

While designing CAM familiarisation modules for African medical curricula, course designers should bear in mind that the major form of CAM patronized by most Africans is herbal medicine. In African countries that have CAM-training institutes, teaching of CAM familiarisation modules to undergraduate medical students could be provided by faculty members from such institutes.

In conclusion, it is recommended that African medical schools introduce CAM familiarization modules into their undergraduate and postgraduate medical curricula, in order to fully prepare the 21st century medical doctors to deliver holistic medical treatment, and thus be at par with the global trend.

4 Competing interests

The author declares that there is no competing interests.

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是否应该在非洲医学院校中教授补充替代医学？

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摘要：在非洲社会，补充替代医学疗法是家庭常用的疗法。大多数非洲人使用补充替代医学疗法替代主流医学疗法。出现这一现象的原因一是因为传统，二是因为很多人从经济上无法负担常规的治疗手段。在发达国家，补充替代医学的使用不断增长，因此，这些国家的很多医学院校将补充替代医学的课程纳入了医学本科生的课程体系。而在非洲，大部分医学院校并没有向学生教授补充替代医学。基于越来越多的非洲人开始使用补充替代医学疗法，以及潜在的补充替代医学疗法与常规疗法的相互作用，医生们有必要熟知那些常用的补充替代医学疗法。要达到这一目的，建议将补充替代医学的课程纳入非洲医学院校医学本科生的授课体系。这将有助于未来的非洲医生掌握整体治疗的手段，并与国际的发展趋势接轨。

关键词：教育；医学；补充疗法；非洲