

## Research Article

# Knowledge and Information Seeking Behaviour among Medical Trainees on Complementary and Alternative Medicine Use

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**Background:** The substantial increase in the consumption of complementary and alternative medicine (CAM) has spawned renewed interest in assessing determinants underlying this phenomenon. The present study aimed at describing the demographic profile, knowledge and information seeking behavior of medical trainees towards CAM.

**Methodology:** A cross sectional study was performed among medical trainees of University of Nairobi between March 2012 and May 2012. The respondents were asked to volunteer information on bio data, knowledge of various CAM modalities and sources of information using a questionnaire based tool of data collection. Descriptive data was compounded using SPSS version 17.

**Results:** A total of 124 trainees participated in the study, representing a response rate of 83%. There were more female respondents (52%) compared with males (48%). Despite more than 75% of the respondents having heard of Pub Med and Cochrane databases, less than 47% of the respondents use them. Generally, more than 50% of the respondents were more versed with herbal, African tradition, diet, support and spirituality modalities of treatment.

**Conclusion:** A majority of trainees have limited scope on various modalities of CAM, with scant usage of online scientific resources for increasing knowledge. The medical curriculum developers should consider these factors when instituting changes in medical education.

**Keywords:** complementary medicine, alternative medicine, medical trainees, knowledge, behaviour

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## 1. Introduction

Global perspectives on trends of complementary and alternative medicine use show a considerable increase in consumption of CAM products for management of various diseases. In USA, for instance, 40% of the adult population was reported in 2007 to have used CAM (Barnes, et al 2008). Findings from other industrialized countries show a similar trend with a prevalence of 46-62% (Fisher and Ward 1994; MacLemman, et al. 2002).

Although an all inclusive definition is lacking in literature, the National Center for Complementary and

Alternative Medicine (NCCAM) defines CAM as a group of health care systems, practices and products not presently considered to be part of allopathic medicine (NCCAM 2009). It encompasses five categories of modalities which can be used together with or in place of conventional medicine hence complementary or alternative medicine, respectively. These categories include mind body interventions (meditation, yoga, imagery, faith healing), Biologic-based therapies (herbal medicine, dietary supplements), Manipulative and Body-based methods (osteopathic and chiropractic manipulation, massage therapy, etc.), Energy Healing therapies (qigong, tai chi, Reiki) and Alternative

Medicine practices (Traditional Chinese medicine, acupuncture, homeopathy, Ayurveda, Traditional African medicine).

The surge in the popularity of these therapies is understandable on different grounds. A significant number of patients perceive conventional approaches of managing chronic diseases as ineffective (Sutherland and Verhoef 1994). Hence use of holistic methods that are congruent to their personal, religious and cultural values appears more appealing. Additionally, the low cost, less side effects and wider penetration of CAM therapies has set a solid foundation for popularity (Bishop, et al. 2007). In the West, the commonest modalities include reflexology, massage, homeopathy, osteopathy and hypnosis (Barnes, et al. 2008). In contrast, the Eastern world is dominated by Chinese and Indian traditional medicine (Malik, et al. 2000; Lisong, et al. 2010).

In African setting, published studies on CAM patterns of use are not as forthcoming as witnessed in the English literature. The few studies conducted among specific patient populations reveal the popularity of herbals, faith healing, rituals and nutritional products (Ezeome, et al. 2007; Rutemberwa, et al. 2013). Even with the clamour by governments to expand conventional treatment accessibility, CAM has not been relegated to the periphery as evidenced by medical pluralism in Kenya (Pecoul, et al. 1999; Dustin, et al. 2010). Hence, there is no likelihood that this culture will be eradicated.

In the local setting, teaching of CAM forms an insignificant part of medical training, probably due to curricula response to government initiative of expanding conventional treatment. Additionally, there is scarcity of adequately trained professionals in this field. It is highly likely that medical graduates will come across patients seeking information on concurrent use of CAM and prescribed drugs. In such situations, the healthcare provider might not be able to guide the patient due to insufficient knowledge on matters pertaining CAM. Against this background, the present study sought to determine awareness and information seeking behavior among medical trainees in the context of CAM.

## 2. Methods

### 2.1 Study Site

This study was performed at University of Nairobi medical school located in the precincts of Kenyatta National Hospital and Chiromo campus. The school has a student population of around 2000 with preclinical courses being located in Chiromo. With an eleven month academic calendar, there is high likelihood of interviewing most of medical trainees at any given point.

### 2.2 Study Design and Subject Recruitment

This was a non-experimental, cross-sectional survey that was conducted between March 2012 and May 2012 using a questionnaire based tool of data collection.

One hundred and fifty medical trainees (115 undergraduates and 35 postgraduates) were randomly selected and invited to fill in the questionnaire. Initially, a calculated sample size of 75 from the target population of medical students had been arrived at by factoring in a 95% confidence interval, 5% margin of error and 70% media reported prevalence of CAM use in Kenya. The estimated sample size was increased by 90% to account for contingency effect as a result of non response or recording errors. An exclusion criterion was based on the absence during the study session or returning of blank questionnaire.

**Table 1:** Demographic information of study participants (N=124)

		Frequency	Percentage
<b>Training status</b>	Year 1	23	18.5
	Year 2	16	12.9
	Year 3	28	22.6
	Year 4	17	13.7
	Year 5	16	12.9
	Registrar 1	9	7.3
	Registrar 2	6	4.8
	Registrar 3	4	3.2
	Fellow	2	1.6
	Others	3	4
<b>Gender</b>	Male	60	48.4
	Female	64	51.6
<b>Ethnicity</b>	African	103	83.1
	Indian	20	16.1
	Caucasian	1	0.8
<b>Religion</b>	Christian	98	79.1
	Muslim	22	17.7
	Hindu	4	3.2
<b>Age (yrs)</b>	<20	20	16.1
	20-29	76	61.3
	30-39	26	21.0
	>40	2	1.6
<b>Residence</b>	Rural	32	25.8
	Urban	92	74.2

### 2.3 Data Collection

After literature review, a questionnaire was designed to elicit relevant data (Lie and Boker 2004). It was subdivided into three sections: awareness, sources of information and demographic variables. The initial questionnaire was pretested with a randomly selected 20 medical trainees. Questions and data findings from the pilot study were analyzed to determine if revisions to the questionnaire were necessary.

The first part of the questionnaire had participants rating themselves on how well versed they were on 15 CAM modalities. A comprehension of the modality, its effectiveness and harmfulness was assessed. This section was then followed by sources of information that participants may have been using to access evidence based material. Various online databases and mainstream sources of information were availed to the participant. The respondents answered whether they had heard of the source or found it useful in knowledge dissemination.

Following information seeking assessment, demographic information was filled in. Data collected in this category included study level, gender, ethnicity, religion, age and place of residence.

The study coordinators who had been trained on administration of questionnaires explained the contents of the study to the target population in their respective academic venues. Any questions related to the study were addressed before distributing the questionnaires to the randomly selected participants in the venues. Filling in the questionnaire took approximately 5 minutes hence the exercise was performed at one sitting to minimize bias introduced by the internet or other information sources. No follow up was initiated after the participants completed the survey.

### 2.4 Statistical analysis

Descriptive statistics expressed as sums and percentages of all variables across all participants were computed. Statistical analysis was performed using Statistics Package for Social Sciences (SPSS) version 17.0 for windows.

### 2.5 Ethical considerations

Prior to the study, ethical clearance was sought from UoN/KNH Ethical Review Board with approval number of UP21/1/2012. During the study, participants were informed of the purpose, risks, benefits and the voluntary nature of their participation by the study coordinators. No incentives were offered. The questionnaire had clear instructions that filling in meant consenting to the study protocol hence a separate informed consent form was not offered for signing. The participants were not coerced in any way to make their responses.

### 3. Results

Data was obtained from 124 trainee participants from medical school, representing a response rate of 83%. **Table 1** depicts the demographic profile of respondents. Majority of participants were in their third

level of undergraduate medical training (23%). The undergraduate population was about five times the postgraduate respondents. Roughly, there was near gender balance with a gap of 3.2%. One hundred and three participants were of African descent with only one person of Caucasian origin.

Christianity was the predominant religion (79%) compared to Muslims and Hindus at 18% and 3%, respectively. Seventy six (61%) respondents were aged 20-29 years, constituting the largest age cohort. Residential settings were predominated by urban (74%) in comparison to 26% who reside in rural areas.

Information on knowledge of CAM modalities is shown in **Table 2**. The commonest known modalities of CAM were traditional African (80%), spirituality (82%), herbal (75%) and diet (72%). Osteopathy, homeopathy and hypnosis were the least known. A fewer proportion of respondents considered the modalities as effective apart from diet (60%) and support groups (52%). On whether the modalities were harmful, less than half of respondents concurred. Naturopathy was believed by the least number to be harmful while traditional African and Chinese medicine being considered by many as harmful. More than half of study participants did not deem prayers, meditation/yoga, diet and support groups as harmful.

**Table 3** denotes various online databases that harbor information on CAM. Most of the participants (77%) had heard about Pub Med but only 46.8% of the respondents had found it useful. The gap was even larger for Cochrane, with 81 (65.3%) having heard about it but only 30 (24.2%) finding it useful. CHID and NCCAM website were the least known and used data sources.

**Figure 1** outlines distribution of various mainstream channels of information used to access information. Newspapers were the most popular means at 26.8% followed by internet at 22.6%. The least popular were videos, healthcare providers and others at 7.3%, 5.9% and 4.8%, respectively. The others category comprised friends, posters and banners.

### 4. Discussion

The advancement in medical technology has not relegated diverse methods used in management of diseases since time immemorial. Complementary and alternative therapies form a crucial component of patient management in many societies (Singh, et al. 2004). Though this aspect has received scant attention in conventional medical education, there is an emerging wave to scale up the training (Oberbaun, et al. 2003).

Comprehending underlying patterns among the health care trainees on CAM forms a firm ground for policy formulation and curriculum development.

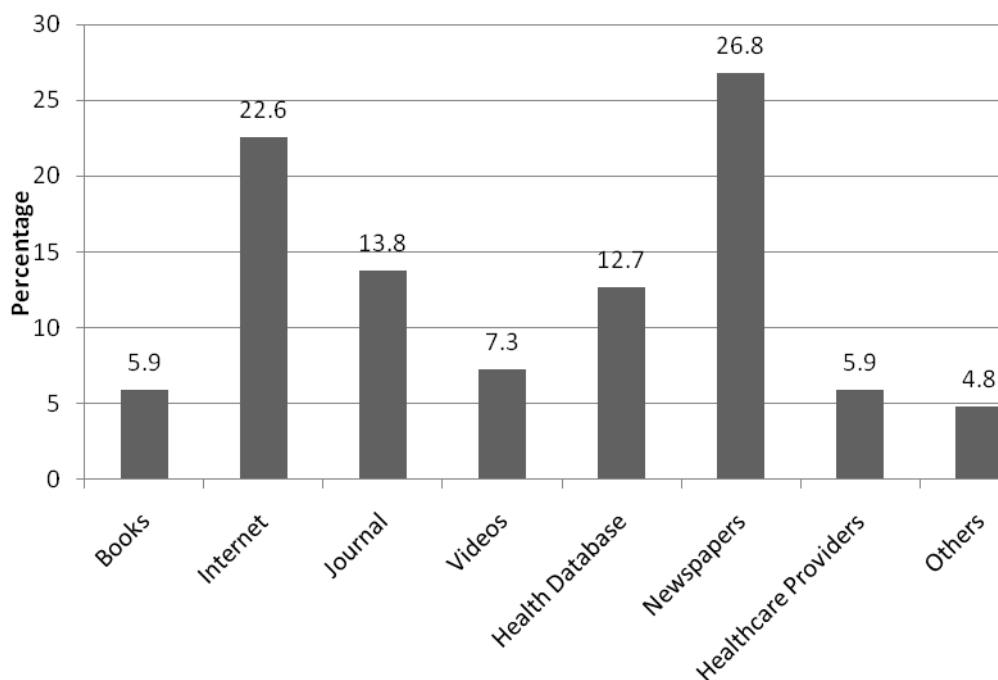
This cross sectional study found out that a majority of trainees had limited understanding of various modalities especially ones practiced in the West (hypnosis, naturopathy, osteopathy and aromatherapy) and the East (TCM, Ayurveda and acupuncture).

**Table 2:** Knowledge of respondents on various modalities of CAM (N=124)

<b>Modality</b>	<b>Know something/ A lot n (%)</b>	<b>Heard of it only n (%)</b>	<b>Never heard of it n (%)</b>	<b>Effective n (%)</b>	<b>Not effective n (%)</b>	<b>Not sure of effectiveness n (%)</b>	<b>Harmful n (%)</b>	<b>Not harmful n (%)</b>	<b>Not sure of harmfulness n (%)</b>
Traditional African	99 (80)	15 (12)	10(8)	43(35)	68(55)	13(10)	54(44)	18(15)	52(41)
Spirituality/prayer	102(82)	15(12)	7(6)	32(26)	75(60)	17(14)	42(34)	80(65)	2(1)
Meditation/yoga/relaxation	37(30)	76(61)	11(9)	23(18)	45(36)	56(46)	32(26)	84(68)	8(6)
Herbal	93(75)	21(17)	10(8)	51(41)	57(46)	16(13)	47(38)	35(28)	42(34)
Traditional Chinese/acupuncture	21(17)	73(59)	20(16)	32(26)	43(35)	49(40)	54(44)	25(20)	45(36)
Ayurveda /Indian medicine	43(35)	65(52)	16(13)	43(35)	23(19)	58(47)	23(18)	22(18)	79(64)
Diet	89(72)	21(17)	14(11)	74(60)	18(14)	32(26)	23(18)	99(80)	12(9)
Support groups	78(63)	38(30)	8(7)	65(52)	24(19)	35(28)	37(30)	73(59)	14(11)
Aromatherapy	45(36)	58(47)	21(17)	42(34)	37(30)	45(36)	39(31)	26(21)	59(48)
Naturopathy	32(26)	24(19)	68(55)	10(8)	17(14)	97(78)	6(4)	10(8)	104(84)
Chiropractic	21(17)	25(20)	78(63)	10(8)	3(2)	111(90)	15(12)	12(10)	97(78)
Massage	45(36)	59(48)	20(16)	43(35)	49(40)	32(25)	48(38)	53(43)	23(19)
Osteopathy	12(10)	21(17)	91(73)	6(5)	16(13)	102(82)	13(10)	5(4)	106(86)
Homeopathy	8(6)	13(10)	103(83)	7(6)	4(3)	113(91)	11(9)	18(15)	95(76)
Hypnosis	11(9)	17(14)	96(77)	9(7)	16(13)	99(80)	7(6)	5(4)	112(90)

**Table 3:** Distribution of respondents who had heard and used CAM information sources (N=124)

Online CAM resource	Have you heard of it?	If you have used it, do you find it useful for CAM information
Pub Med	96 (77.4%)	58 (46.8%)
Cochrane Library	81 (65.3%)	30 (24.2%)
Combined Health Information Database	12 (9.7%)	6 (4.8%)
NCCAM website	4 (3.2%)	2 (1.6%)

**Figure 1:** Percentage distribution of sources of information on CAM (N=124)

The most known were traditional African medicine, herbal, prayer and diet. This is logically acceptable based on cultural, educational and religious backgrounds of respondents. Curriculum design may also have contributed to the lower level of knowledge among respondents since there is no structured way of learning about these modalities.

Though majority of the participants had heard of the two scientific databases: Pub Med and Cochrane; more than half of them had not found all of the cited databases as useful in dissemination of information on CAM. This finding was in contrast to Abbott, et al. 2011 who in their survey on medical students found a greater majority claiming to have found them useful. But while their subjects had been exposed to a health informatics class, ours were not. Additionally, the fact that these databases have only been accessible in the country for a few years meant that many students especially at undergraduate level may not have been familiar with them. It could also have been possible that respondents were interested more in seeking information on conventional medicine hence could not find the databases useful in relation to CAM. However, it was not surprising that newspapers and internet formed the bulk of mainstream sources of information on CAM.

While the former has been in existence for many years, the latter has spread due to availability of internet mobile gadgets and fiber optic.

This study has a number of weaknesses that should be considered when interpreting findings. As this was a cross sectional study with the findings based on data collected at specific point in time in one institution, it may be difficult to make causal inferences from the sample to the general population. Secondly, the study used self reported measures in the questionnaire which may have introduced reporting biases and misclassification errors when respondents fail to indicate actual responses to the questions. Barring these limitations, this survey establishes baseline information on CAM knowledge and information seeking behavior among medical trainees in the institution.

In conclusion, the current study findings show a low level of knowledge and information seeking behavior among medical trainees in relation to CAM. As conventional medicine and CAM become integrated by the patient population, there is a need of the health care providers to understand the details involving both lines of management. It is therefore hoped that curricula

developers will consider these facts when responding to the changes in healthcare education.

### Conflict of Interest declaration

The authors declare no conflict of interest

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