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Original Research Article

Pattern of Use, perceived benefits and adverse effects of complementary and alternative medicine use among surveyed adults in Uyo, Akwa Ibom state: A nutritional perspective

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Abstract

Awareness of Complementary and Alternative Medicine (CAM) has been increasing over time. The aim of this study was to determine the Patterns of CAM use, perceived benefits and adverse effects of CAM by the users, as well as the reasons for use. Also to estimate the monthly cost of CAM to users in the study area.A cross-sectional study design was used, and structured questionnaire was the means of data collection. Purposive sampling was done. Three hundred respondents (53.7% males and 46.3% females) participated in this study with 295 (98.3%) CAM-users and 5(1.7%) non-CAM users. The relationship between CAM use and all the socio-demographic characteristics were however not significant ($p>0.05$). The most popularly known CAM method was Traditional herbal medicine (95.3%) followed by vitamins (91.0%) and spiritual healing (71.7%). Majority of the respondents believed CAM products should be encouraged (91.7%), combined CAM with prescribed medications (55.5%) and did not inform their doctors of their CAM use (50.3%). About 34% believed that CAM products had side effects, while 21.4% reported experiencing these side effects. The surveyed respondents spent 5,000 -30,000 naira on CAM monthly. There is dire need for adequate regulatory policies on the formulation, distribution and use of CAM products as its use is prevalent.

Keywords: Complementary and alternative medicine, herbal medicine.

INTRODUCTION

As people become increasingly concerned about their health, more and more people have begun to seek a more 'natural' cure for ailments and this has led to the increasing prevalence of the use of Complementary and Alternative Medicine (CAM) globally [1-3]. As defined by National Centre for Complementary and Integrative Health (NCCIH), CAM is a group of diverse medical and health care systems, practices, and products that are not presently considered to be part of conventional medicine. CAM therapies are referred to as alternative when used in place of conventional treatments and Complementary when used together with conventional treatments [4].

NCCIH [4], classified CAM therapies into five categories: 1) alternative medical systems like Homeopathy, Ayuverda and Naturopathy; 2) mind-body interventions such as psychotherapy, meditation and prayer; 3) biologically-based systems, including herbalism and nutritional supplements; 4) manipulative and body-based methods, such as chiropractic and massage therapy; and 5) energy therapies like Reiki and use of direct current fields for healing. Many products and measures used by individuals for health promotion, disease prevention and treatment of illnesses therefore fall under the CAM umbrella. Among different CAM therapies, Chiropractic manipulation, herbal medicine, nutritional supplementation, massage and homeopathy were the most commonly used [3, 5, 6].

CAM use in West Africa is reported to be very high as the people usually seek a form of health care that is holistic [7, 8]. This preference for holistic care stems from the general belief that illness is not only a physical, but may also be a spiritual, moral or social disorder and treatment involves all these components [8].The lifetime prevalence of CAM use in Ghana was reported to be 86% with herbal products and prayer healing being the commonest forms used [9]. Similar findings have been reported in Nigeria [10-12].

Studies have shown that females, married, low income earners and those of low socioeconomic class were more likely to use CAM [13, 14]. Several factors are responsible for the seeming neglect of orthodox medicine in Nigeria, and they include the long waiting time in health care facilities [15]; the high cost of

orthodox medicine [16]; the accessibility of CAM, as the traditional practitioner to patient ratio is 1:110 when compared to the medical doctor to patient ratio of 4:10,000 [17, 18]; the dwindling faith in mainstream medicine [19]; and the belief that CAM use is devoid of side effects [12]. There has also been aggressive marketing by CAM practitioners as opposed to orthodox medicine which has caused an increased awareness of CAM products generally [20].

Studies have reported potential benefits of CAM including relief of chronic pain, constipation, wound healing, treatment of epilepsy, asthma and anemia [20-22] . There has also been widespread use in the treatment of diet-related chronic non-communicable diseases (NCDs) [23, 24]. It has been postulated that the use of CAM for many diet-related chronic diseases maybe due to the so called "shot gun" approach, where people are willing to try anything in chronic and life threatening disease, and the "relief" may well be a placebo effect [25, 26]. In Nigeria many studies in laboratory animals have demonstrated the medicinal efficacy of local herbs and seeds [27-29].

Several risks have however been associated with the use of various forms of CAM including chemical burns caused by application on the skin, weight loss, general malaise, diarrhea, nausea and vomiting which were reported to be worse when two or more therapies were combined [20, 30, 31]. Several studies pointed out that some biological CAM medicines were being doped with steroids, analgesics, diuretics and caffeine, and these come with their adverse effects, hereby deceiving the uninformed into believing the efficacy of such CAM [32, 33]. CAM use has also been implicated in the etiology of kidney failure, liver failure and cancers [34, 35].

These risks arise because users do not know the individual components of the treatment they receive [32], they do not inform their doctors of the use of CAM [5, 6], and therefore combine CAM with conventional medicine unsupervised [20, 36]. This could lead to interactions between the active ingredients of conventional medicines and the CAM medications that could give rise to deleterious effects, or could render the conventional dugs ineffective. These interactions are hard to predict as only a few have been documented [37]. In 2007, about 33.9 billion dollars was spent on CAM by adults in the United States [38]. While CAM is generally presumed to be less costly in Nigeria [39], only few studies have been done to support this fact [16].

Apart from local herbs and seeds, Nigerians have increasingly patronized Chinese traditional and Western traditional medicines in form of supplements and physical therapies. Examples of these include Tianshi products, Greenlife herbal products, Forever Living Products and GNLD among others. Integrative medicine combines traditional medicine and CAM therapies for which there is high-quality scientific evidence of safety and efficacy [4]. Traditional African herbs and healing measures, if found to be effective could be integrated into mainstream medicine like it has been done in the developed worlds [40].

Nutritional perspective

CAM use has significant impact on nutrition of individuals. CAM therapies, especially dietary supplements and other biological methods may be inappropriately used to compensate for an adequate diet which contains all the essential nutrients in their right proportions. Also, the use of CAM may affect the health seeking behaviour of individuals with diet-related chronic diseases, causing either a delay in health seeking, stoppage of orthodox medicine in favour of CAM [41].

Various studies have been done on the prevalence and pattern of CAM use in Nigeria and in Uyo however, there is paucity of information on the perceived benefits and adverse effects; the reasons for preferred use; and the economic cost of CAM to the people. Hence the need for this study which has the following objectives:

- To determine the socio-demographic characteristic of selected respondents in 2018.
- To determine the pattern of CAM use among surveyed adults Uyo in 2018.
- To determine the relationship between socio-demographic characteristic of surveyed adults and their CAM use.
- To determine the knowledge and perception of advantages and adverse effects of CAM use among surveyed adults in Uyo in 2018.
- To determine the reasons for use of CAM and monthly cost of such use to surveyed adults in Uyo, in 2018.

MATERIALS AND METHODS

Location

The study was carried out in Uyo, Akwa Ibom State. Uyo is the capital of Akwa Ibom state in the South-South region of Nigeria. Uyo is situated at 5.2° North latitude, 7.55° East longitude and 196 meters elevation above the sea level. The population of Uyo, according to the projected 2016 Nigerian Censusis 429,900 [42].

Sampling

Purposive sampling method was employed in the selection of different respondents. Different locations in the city were identified where it was assumed that people of differing socio-economic characteristics would be found to enable proper representation of different socioeconomic classes. These locations included 2 motor parks in Uyo namely Akwa Ibom Transport Company (AKTC) park and

Lagos park at Itam; The two major local markets namely Akpan Andem market and Itam market; The Idongesit Nkanga state secretariat and the federal secretariat on Abak road; and mechanic village on Abak road. Participants in the different locations were selected by simple random sampling.

A sample size of 181was derived using the formula:

$$N = \frac{zpq}{d^2}$$ (Cochran and Snedecor 1974)

Where

z=95%; confidence interval= 1.96
p=probability of event occurring, (taken as 63.8% as reported by [14]); p=0.638.
q= 1-p = 0.326
d=0.05 which is acceptable margin of error.
Therefore n=181

This was increased to 300 to take care of attrition, non - response and incomplete information

Data collection

The instrument for data collection was a structured questionnaire developed by the researchers which was administered to each participant. Research assistants were trained to facilitate administration. For participants who were not literate, the questionnaire was interpreted to them.

- **SECTION A**: socio-demographics characteristics of the respondents such as sex, marital status, age, highest educational level attained, occupational status, household size and household income.
- **SECTION B**: this assessed the respondents' knowledge of different CAM products. **SECTION C**: this section assessed the perception of the respondents on CAM uses, benefits and adverse effects.
- **SECTION D**: assessed the economic cost of CAM to the respondents, the reasons for CAM use, possible adverse reactions experience, frequency of use and duration of use of the said CAM or CAMS

Statistical analysis

The data collected was analysed using Statistical Package for Social Sciences (SPSS), version 20.0 (SPSS Inc. Chicago, IL, USA). The statistical significant level was set at $p<0.05$. The categorical variable results were presented as frequency and its percentage. Inferential statistic was done using chi square.

Ethical approval

Ethical approval for this study was sought for and obtained from the Ministry of Health, Akwa Ibom State. In addition the purpose of the study was explained to prospective respondents, the confidentiality of the information they were to provide assured and their names were not required. They were informed that they were free to opt out at any time and only those who gave consent were recruited as respondents.

RESULTS

Socio-demographic characteristics of respondents

A total of 300 respondents participated in this study, 162(53.7%) being males and 138(46.3%) females. The 40-60 years age group made up most of the respondents (44.8%) followed by the 20-35years age group (26.3%). Most of the respondents were married (64%), and had tertiary level of education (57.5%). Majority were civil servants (40.1%), with business men/women following (21.8%). CEO/politicians made up the least number (0.3%). Most households were between 1-4 in size (49.7%), and earned less than 50,000 naira (50.7%). Table-1 shows the socio-demographic characteristics of respondents.

Pattern of CAM use

Majority of the respondents used CAM (98.3%) while only 1.7% were non-CAM users. A higher percentage of males used CAM (99.4%) than females (97.1%) however, there was no statistical difference is this relationship. All those less than 20 years used CAM, and those 20-35 years used CAM the least (96.2%). 95.8% of divorced respondents used CAM, while 100% of widowed respondents used CAM. 100% of those with primary level of education and no formal education used CAM, while 97.8% of those with secondary education used CAM. All relationships were not statistically significant. This is shown in Table-1.

Table-1: Distribution of CAM use by socio-demographic characteristics of respondents

	CAM user N=295(98.3%)	Non-CAM user N=5(1.7%)	Test Statistics
Gender			X^2Likelihood ratio=2.480; p=0.115
Male (n=162, 53.7%)	161(99.4)	1(0.6)	
Female (n=138, 46.3%)	134(97.1)	4(2.9)	
Age			X^2Likelihood ratio=2.817; p=0.421
<20 (n=6, 2.0%)	6(100.0)	0(0.0)	
20-35 (n=79, 26.3%)	76(96.2)	3(3.8)	
35-60 (n=137, 44.8%)	136(99.3)	1(0.7)	
>60 (n=78, 26.2%)	77(98.7)	1(1.3)	
Marital status			X^2Likelihood ratio= 2.323; p=0.508
Single (n=67, 22.3%)	65(97.0)	2(3.0)	
Married (n=192, 64.0%))	190(99.0)	2(1.0)	
Divorced (n=24, 8.1%)	23(95.8)	1(4.2)	
Widowed (n=17, 5.7%)	17(100.0)	0(0.0)	
Educational level			X^2Likelihood ratio=1.244; p=0.941
Primary (n= 10, 3.4%)	10(100.0)	0(0.0)	
Secondary (n=46, 15.6%)	45(97.8)	1(2.2)	
Tertiary (n=169, 57.5%)	167(98.8)	2(1.2)	
NFE (n=19, 6.5%)	19(100.0)	0(0.0)	
VE (n=50, 17.1%)	49(98.6)	1(1.4)	
Occupation			X^2Likelihood ratio=4.099; p=0.535
CEO/politician (n=1, 0.3%)	1(100.0)	0(0.0)	
Civil servants (n=118, 40.1%)	117(99.2)	1(0.8)	
Businessman/woman(n=64,21.8%)	63(98.40	1(1.6)	
Artisan/trader (n=54, 18.2%)	53(98.1)	1(1.9)	
Student (n=31, 10.5%)	21(93.5)	2(6.5)	
Unemployed (n=28, 9.5%)	28(100.0)	0(0.0)	
Household size			X^2Likelihood ratio=0.208; p=0.901
1-4 (n=147, 49.7%)	145(98.6)	2(1.4)	
5-7 (n=94, 32.0%)	92(97.9)	2(2.1)	
>7 (n=55, 18.4%)	54(98.2)	1(1.8)	
Household income			X^2Likelihood ratio=5.131; p=0.162
<50,000 (n=148, 50.7%)	145(98.0)	3(2.0)	
50-200,000 (n=128, (43.5%)	127(99.2)	1(0.8)	
201-400,000 (n=14, 4.8%)	14(100.0)	0(0.0)	
>400,000 (n=4, 1.4%)	3(75.0)	1(25.0)	

NFE= no formal education; VE= vocational education.

Knowledge of different CAM methods

Table-2 shows the respondents' knowledge of different CAM methods. The most popular CAM method was "native medicine" with 95.3% of the respondents having heard of it. This was followed by "vitamins" (91.0%) and "spiritual healing" (71.7%). The least popular CAM method was "Levor" with only 14.7% of the respondents having heard of it.

Table-2: Respondents' knowledge of different CAM methods

CAM method	Yes	No	CAM method	Yes	No
Native medicine	286(95.3)	14(4.7)	Greenworld	110(36.7)	190(63.3)
Vitamins	273(91.0)	27(9.0)	FLP	103(34.3)	197(65.7)
Spiritual healing	215(71.7)	85(28.3)	Joblyn	67(22.3)	233(77.7)
Chinese medicine	175(58.3)	124(41.7)	Tasly	59(19.7)	239(79.9)
Energy drinks	165(55.0)	134(45.0)	Agbo	57(19.0)	241(80.3)
Minerals	162(54.0)	136(45.3)	Yoyo bitters	49(16.3)	249(83.0)
Longrich	157(52.3)	142(47.3)	Noni	45(15.0)	254(84.7)
GNLD	134(44.7)	164(55.0)	Levor	44(14.7)	253(84.3)

FLP= forever living products

Perception of advantages and adverse effects of CAM use

Majority of respondents believed CAM should be encouraged (91.7%), are effective (88.0%), can supplement food (56.3%), and can treat diabetes (51.7%). Only 0.7% of respondents believed it can treat asthma, 1.7% believed it can treat anemia and 2.3% believed it can treat infertility. This is seen in Table-3.

A high number of respondents combine CAM with prescribed medication (166, 55.5%), while 133(44.5%) did not. Less than a quarter (23.3%) of respondents combined CAM with over the counter drugs, while 221 (76.7%) did not. Most respondents reported that their doctors are not aware of their use of CAM (146, 50.3%), while 144(49.7%) informed their doctors of their use of CAM. Of those who did not inform their doctors of their use of CAM, 74 (46.8%) said their doctors didn't ask, 41 (25.9%) reported that they feared disapproval from their doctors, 37 (22.5%) said it was not necessary to inform their doctors while 6(3.8%) did not inform their doctors because they thought their doctors may change the prescription.

Table-3: Perception of respondents on CAM methods

	Yes n (%)	No n (%)	Don't know n (%)		Yes n(%)	No n(%)	Don't know n(%)
Can supplement food	169 (56.3)	117 (39.0)	14 (4.7)	Can treat arthritis	115 (38.3)	153 (51.0)	29 (9.7)
There are side effects	104 (34.7)	131 (43.7)	62 (20.7)	Can treat heart disease and stroke	149 (49.7)	116 (38.7)	33 (11.0)
They should be encouraged	275 (91.7)	12 (4.0)	10 (3.3)	Can treat diabetes	155 (51.7)	99 (33.0)	41 (13.7)
They are effective	264 (88.0)	23 (7.7)	12 (4.0)	Can treat Anaemia	5 (1.7)	25 (8.3)	266 (88.7)
They can be combined with orthodox medicines	86 (28.7)	188 (62.7)	25 (8.3)	Can treat Asthma	2 (0.7)	7 (2.3)	288 (96.0)
They can be dangerous	80 (26.7)	160 (53.3)	57 (19.0)	Can treat infertility	7 (2.3)	9 (3.0)	281 (93.7)
Can treat hypertension	125 (41.7)	146 (48.7)	27 (9.0)				

Reasons for CAM use

Table-4 reports the reasons for CAM use by respondents. A total of 234(78%) of respondents reported using CAM for good health while 208(69.3%) used it to boost immunity. Only 1(0.3%) of respondents reported using it to treat anemia, asthma and weakness respectively.

Most respondents who used CAM for a specific disease were diagnosed by a vendor (144, 49.0%). Only 30(10.2%) were diagnosed by a medical doctor while 43 (14.3%) were diagnosed by friends/relatives, 37 (12.6%) were self-diagnosed, 17(5.8%) by chemists 15(5.1%) by pharmacists and 8(2.7%) were diagnosed by a pastor.

Table-4: Reasons for use of CAM

Reason	**N (%)**
For good health	234(78.0)
Poor diet	57(19.0)
To boost immunity	208(69.3)
For weight gain	48(15.3)
For weight loss	79(26.3)
Doctor's prescription	32(10.7)
OM failed	39(13.0)
More accessible/affordable	74(24.7)
Complements OM	134(44.7)
For specific disease	
Hypertension	81(27.6)
Arthritis	44(15.0)
Stroke/heart disease	32(10.9)
Diabetes	39(13.3)
Insomnia	18(6.1)
Anemia	1(0.3)
Asthma	1(0.3)
Infertility	9(3.1)
Weakness	1(0.3)

OM=orthodox medicine

Side effects

Of respondents who used CAM, 62 (21.4%) reported experiencing side effects due to CAM use, while 228(78.6%) reported that they didn't experience any side effects. The most experienced side effect was dizziness with 67.8% of those who experienced side effects experiencing dizziness, and the least was tingling sensations (1.6%). Headache was experienced by 14(22.5%), 12(19.4%) experienced drowsiness, 5(8.1%) experienced skin irritations, 9(14.5%) had black stool and another 9(14.5%) had other Gastrointestinal symptoms.

Economic cost of CAM to respondents

This is reported in Table-5. Majority of the respondents reported that they used CAM occasionally (49.1%), while 24.6% reported using it daily. Majority of respondents reported that their source of CAM was from Vendors (37.0%), followed by pharmacy/chemist (35.9%). Only a few respondents (3, 1.1%) reported getting their CAM therapies from Church/prayer house. Most of the respondents spent between ₦1,000 to ₦5,000 on CAM (49.0%), while 8.0% spent more than ₦20,000 on CAM.

Table-6 shows the relationship between monthly income and monthly cost of CAM. The relationship was positive and statistically significant. It shows that majority of the respondents, who earned less than ₦50,000 spent between 1,000 to 5,000 monthly (66.1%), however, 2.1% of these spent more than ₦20,000 on CAM monthly. Of those who earned between ₦50,000 to ₦200,000, 14.8% spent more than ₦20,000 monthly on CAM.

Table-5: Economic cost of CAM to respondents

	N (%)
How often used	
Daily	72(24.6)
Weekly	77(26.3)
Occasionally	144(49.1)
Source of CAM	
Pharmacy/chemist	102(35.9)
Homeopathy hospital	44(15.5)
Traditional healer	10(3.5)
Market	13(4.6)
Personally prepared	7(2.5)
Church/Prayer house	3(1.1)
Vendor	105(37.0)
Monthly cost (₦)	
1-5,000	123(49.0)
6-10,000	50(19.9)
11-15,000	32(12.7)
16-20,000	26(10.4)
>20,000	20(8.0)

Table-6: Distribution of cost according to monthly income

Monthly income(₦)	**Monthly cost of CAM(₦)**					
	1-5,000	6-10,000	11-15,000	16-20,000	>20,000	Test statistics
<50,000	82(66.1)	24(19.4)	9(7.3)	7(5.6)	2(1.6)	r=0.345
50-200,000	36(33.3)	24(22.2)	17(15.7)	15(13.9)	16(14.8)	P=0.000*
>200,000	4(28. 6)	2(14.3)	4(28.6)	3(21.4)	1(7.1)	

*statistically significant ($p<0.05$)
r= Pearson correlation coefficient

DISCUSSION

Pattern of CAM use

Findings from this study show a high prevalence of CAM use among the respondents. Other studies in Nigeria have shown a similarly high prevalence of CAM use [10, 12, 43]. The relationships between gender, age, marital status, education, occupation, household size monthly income and CAM use were not statistically significant and this is similar to what was obtained [43]. However, it is in contrast to what was reported [14, 23, 36, 44].

Knowledge of different CAM methods

This study analyzed the knowledge of different CAM methods by the respondents. It shows that most of the respondents knew about native medicine, followed by vitamins, spiritual healing and Chinese medicine. Several studies in the country have shown that native herbal preparations and spiritual healing were the most commonly used CAM methods [44]. This study however did not assess the frequency of use of the different CAM methods.

Perception of advantages and adverse effects of CAM use

A high number of respondents in this study believed that CAM products had no side effects supporting findings in [45]. This belief is quite dangerous as many CAM products have been found to have side effects. An indiscriminate use of CAM products can put the users at risk of toxicity. An example is a popular traditional herb, *Veronia amygdalina* locally known as bitter leaf which has been found to have antioxidant and antibacterial properties and is popularly used to treat stomach ache, typhoid fever, skin disease and diarrhoea. However, this herb has been known to cause allergic reactions, diarrhoea, vomiting and headaches [46].

More than half of the respondents in this study combined CAM products with prescribed orthodox medications while about a quarter combined it with over the counter orthodox medications which supports findings in previous works [14]. This is potentially dangerous because of interactions between the two. Also, a little over half of the respondents reported that they do not inform their doctors of their use of CAM, stating that their doctors did not inquire about it as their reason for withholding the information. This was similar to findings in [44]. Doctors should therefore be alert and directly ask each patient about CAM use.

Reasons for CAM use

Majority of respondents used CAM for good health and to boost immunity. About a quarter used it because it was more accessible and affordable than orthodox medicine. This was similar to findings in [39] who reported that 27.1% and 24.9% of their respondents used CAM because it was cheaper and more accessible respectively. Nineteen percent of CAM users reported using CAM due to the fact that they had inadequate diets.

Side effects

A study reported that 28.7% of respondents had side effects to CAM products and this value is close to what was obtained in this study [20]. Aliyu, U. M *et al*., [45] also had similar results, however, majority of the respondents in [44] had side effects which may be due to the fact that the study population was cancer patients.

Economic cost of CAM to respondents

The frequency of use of CAM products was also assessed in this study and it showed that most respondents used it occasionally with about a quarter using it daily. The most common source of CAM was from Vendors, followed by pharmacies/chemist.

This study showed that most respondents spent between ₦1,000 to ₦5,000 on CAM every month. The WHO reported that the worldwide annual market for traditional herbal medicine products is about US $60bn, and that Nigeria among other countries is making substantial research investments in these products. However, these research investments are still minimal when compared to the overall money invested in the pharmaceutical industry [47].

Though studies have not been done to estimate the annual cost of CAM to Nigerians, this figure would be on the high side. This can be harnessed to improve the economic growth of the country. Nigeria has an abundance of medicinal plants that can be researched, regulated, formulated and then released into the general market. This would reduce greatly the cost of importation of drugs into the country, especially foreign CAM products like Chinese traditional medicine and western traditional medicines. For example, a month's dose for a popular Chinese medicine costs ₦25,000 [48].

A study carried out in Ghana to access client perception disclosure and acceptability of integrating herbal medicines into mainstream health care showed that 42.2% of the respondents utilized herbal medicine services when they visited a health facility showing that integration of CAM is feasible, as Ghana was only 3 years into the integration by the time the study was done [49]. A study done on herbal medicinal treatment of malaria in Nigeria showed that there was abundant indigenous knowledge on herbal medicine for the treatment of malaria, a very common disease, and this can be a potential source for a new anti-malarial drug [50].

Nutritional impact

Encourages poor diet

CAM therapies, especially Dietary supplements, a type of biologically-based CAM have the potential to play down on the need for proper nutrition. Dietary supplements include herbs, minerals, vitamins, amino acids, teas, essential oils etc. which are taken orally for the purpose of improving nutrition [51]. Nineteen percent of CAM users in this study reported that they used CAM therapies due to the fact that their diets were unhealthy.

Poor health seeking behaviour among those with chronic diseases

CAM use has been said to be high among those with diet-related chronic diseases like diabetes mellitus, heart disease/stroke and cancers [23, 24]. This was seen in this study, where about half of the CAM users used it for one chronic disease or another. This has dire implications, due to the fact that NCDs are currently the leading cause of death in the world [52], and if not properly treated may lead to serious complications and then to death. CAM use affects the health seeking behaviour of those with NCDs. CAM therapies may even offer a wide range of diets and supplements that are advertised to 'cure' NCDs, however, there is no evidence to support the claims.

Individuals however believe these claims, and therefore patronise CAM vendors with the hope of getting cured as orthodox medicine usually offers no hope of cure for these chronic diseases [53]. Individuals who delay seeking conventional medical care were seen to be more likely to use CAM and to use more types of CAM in [41].

Cost implications

CAM use costs money that would have otherwise been spent on healthy diet or the procurement of safe and efficacious drugs for the management of diet-related chronic diseases.

CONCLUSION

This study showed a very high prevalence of CAM use. The fact that CAM products are believed to be natural and safe may be at the root of this high prevalence. Also, the easy accessibility of CAM practitioners further facilitates this picture. Based on these findings, the following recommendations were made.

- Further research on the efficacy and toxicity of different CAM methods, especially traditional African herbs should be embarked on by governmental and non-governmental organizations.
- Since the prevalence of CAM use is very high, CAM methods which have been scientifically proven to be safe and efficacious should be integrated into mainstream health care.
- There should be proper regulation of indigenous and imported CAM products by governmental bodies in the country.
- Public awareness should be created about safe use of CAM therapies and about the role of dietary supplements in overall nutrition.

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