Original Article

Self-Reported Use of Complementary and Alternative Medicine among the Health Care Consumers at a Tertiary Care Center in Ajman, United Arab Emirates

Mathew E, Muttappallymyalil J[1], Sreedharan J[1], John LJ[2], John J[3], Mehboob M[4], Mathew A[5]

Departments of Community Medicine, [1]Research Division, [2]Pharmacology, [5]College of Allied Health Sciences, Gulf Medical University, [3]Departments of Pediatrics, [4]Internal Medicine, Gulf Medical College Hospital and Research Centre, Ajman, UAE

Address for correspondence:
Dr. Jayakumary Muttappallymyalil, Research Division, Gulf Medical University, Ajman, UAE.
E-mail: researchdivision@gmu.ac.ae

Abstract

Background: Complementary and alternative medicine (CAM) covers a wide range of approaches, including herbal medicine, manual healing techniques, traditional therapies and mind–body interventions. CAM is widely used throughout the world to treat a variety of illnesses and to maintain health. **Aim:** Complementary and alternative medicine (CAM) is popular across the world, and is widely practiced. Utilization pattern and reasons for use and non-use among patients attending a tertiary care center are assessed in this study. **Subjects and Methods:** One hundred and thirty-five patients of different nationalities, above the age of 18 years, Gulf Medical College Hospital and Research Centre, Ajman, UAE, were interviewed using an open-ended structured questionnaire. In addition to socio-demographic characteristics, the acceptability, utilization pattern and reasons for use and non-use were elicited from the participants after obtaining consent from them. PASW 18 version was used to perform Chi-square test and descriptive statistics. **Results:** Among the 135 participants were 20-81 years old, those from the Far East used most 85.7% (6/7), then Pakistan 38.5% (15/39) and India 23% (16/70). The most common system used was homeopathy. Physicians advised 28.2% (11/39) of users, whereas others used non-medical information. Around 71.8% (28/39) reported good outcome for themselves and family; however, only 10% (4/39) recommended it to others. Most of the users, 75% (101/135), were not sure whether CAM was based on scientific evidence, while 18% (24/135) felt it was. Good previous experience and less treatment complications were the most common reasons for using CAM and non-use due to lack of knowledge or need. **Conclusion:** About one-third of the seekers of modern medicine care also use CAM, and mostly without physician advice; hence, the importance of discussing the same while taking the clinical history. In view of the belief that CAM has fewer side-effects, there is even more need for physician-initiated discussion.

Keywords: Alternative medicine, Complimentary medicine, Health care consumers, Utilization pattern

Introduction

Complementary and alternative medicine (CAM) covers a wide range of approaches, including herbal medicine, manual healing techniques, traditional therapies and mind–body interventions.[1] CAM is widely used throughout the world to treat a variety of illnesses and to maintain health. The National Center for Complementary and Alternative Medicine[2] in the United States defines CAM as a group of diverse medical and healthcare systems, practices and products that are not presently considered to be part of conventional medicine. The World Health Organization (WHO) defines traditional medicine as those including diverse health practices, approaches, knowledge and beliefs incorporating plant, animal and/or mineral-based medicines, spiritual therapies, manual techniques and exercises applied singularly or in combination to maintain well-being, as well as to treat, diagnose or prevent illness.[3] Various factors influence the use of CAM and the type used.[4] Herbs are the most widely used, the incidence varying from country to country: 38% adults and 12% children by the

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National Survey in the United States (US);[5] 84% in an urban center in the US,[6] 22.7% in Singapore,[7] 41% in Wales,[8] 38% in Israel,[9] 28% in Taiwan[10] and 20% in Canada.[11]

Researchers have documented the use of CAM in patients with cancer, arthritis, chronic fatigue syndrome, diabetes and dementia.[11-15] The use of CAM by the public may vary within and between countries for various reasons that are poorly understood. Some patients do not trust conventional medicine. They believe that conventional medicine has more side-effects, and that CAM has fewer side-effects. Some patients who choose CAM therapies due to dissatisfaction with conventional medicine that they used previously have heard from others that CAM is effective in treating certain diseases. Yet, others consider CAM more compatible with their values or beliefs of healthiness. The use of CAM by patients, especially those living in rural areas, also appear to be increasing. Many of these CAMs are not yet proven to cure the disease.[16,17] The WHO recommends social research into the motivation of use of traditional medicine (TM)/CAM. It considers that in developing countries, non-conventional/parallel systems are used for its availability and accessibility.[3] The study conducted in Saudi Arabia indicated that the high prevalence in the use of CAM products in Jeddah, Saudi Arabia, may be attributable to the patients' underlying belief that these herbs are efficacious and, in some cases, more than the conventional medicines.[13]

CAM is culturally acceptable and widely utilized in the Eastern Mediterranean Region for a wide spectrum of clinical illnesses. The common traditional and complementary medicine practices in the Middle East include simple herbal remedies, and traditional therapies such as unani, ayurveda, bone setting, massage, etc., Herbal CAM has now been incorporated in the National Health Services alongside the conventional medicine, especially in countries such as Egypt, Jordan, Kuwait, Saudi Arabia and the United Arab Emirates (UAE).[18] The increased utilization of CAM has created a growing interest toward CAMs that have been researched in UAE, Saudi Arabia, Israel, Turkey, Palestine, Jordan, Lebanon and Bahrain.[13,19-27] CAM therapies such as traditional Chinese medicine, chiropractic and homeopathy are being officially recognized.[18]

While some people use CAM therapies alone, many of the CAM users continue to access conventional system as well. CAM is commonly used by adults for musculoskeletal, respiratory illnesses and chronic conditions like cancer, diabetes and psychiatric problems. The patients may not discuss CAM use with their physicians because the physicians do not enquire about it nor do they consider it important to discuss or may be reluctant to disclose. However, some of the therapies may be associated with side-effects and drug interactions, or may add to the effects of polypharmacy.[14,15]

UAE is characterized by mixed ethnic and cultural groups. Therefore, there is a need to identify the most preferred CAM treatments, how often they are being used by adult patients and what factors influence the use. Hence, the present study aimed to determine the acceptability, extent and pattern of CAM use, the types of CAM used, reasons for choosing those CAM and the socio-demographic and clinical conditions associated with the use of CAM.

Subjects and Methods

This cross-sectional study was conducted among adult patients visiting the outpatient departments of Gulf Medical College Hospital and Research Centre (GMCHRC), a tertiary care teaching hospital located in Ajman, United Arab Emirates. GMCHRC is the only teaching hospital in the private sector of the Emirate of Ajman.

Approval was obtained from the Gulf Medical University Ethics Committee Ajman, UAE before the start of the study. Participants were recruited based on convenience sampling, irrespective of their reason for visiting the hospital. This method of recruitment was used to reduce the time and cost, and ease to reach the subjects. Because most of the individuals approached for the pilot study had refused to consent, this method of sampling was adopted to recruit the participants. Participants were approached for the study at the registration counter of the hospital before their visit to the doctor.

A questionnaire was used for data collection, which contained both closed- and open-ended questions. The questionnaire included socio-demographic details, self-reported use of CAM and pattern, family history of CAM use, reasons for use and non-use and opinion about CAM. Socio-demographic data collected were age, gender, education and nationality. The content and face validity of the questionnaire was established by experts in the field of CAM. A pilot study was conducted before the start of the actual study, and subjects who participated in the pilot study were excluded from the analysis.

After obtaining consent, a face-to-face interview was conducted to obtain relevant information from adult patients above the age of 18 years. Participants who did not wish to participate were excluded from the study. Participants who responded to the use of CAM were asked to indicate the type, the reasons for use and the source of information.

Responses were coded and fed into an Excel spread sheet and transferred to statistical software for analysis. Socio-demographic details and pattern of CAM use were analyzed using PASW 18 version (Chicago, Illinois) and summarized as descriptive statistics.

Results

The study was conducted on 135 participants who were 20-81 years old, 81 males and 54 females, attending a private tertiary care hospital in Ajman. Almost half of the patients 49% (66/135) were less than or equal to 40 years

of age, with a mean of 44.5 years and SD 14.9 years. More than 80% (70/135) of the respondents were from the Indian subcontinent, and 7.4% (10/135) were from the Middle East. Almost 70% (94/135) had university education. Respondents were from a variety of occupational backgrounds, the most common being housewives 27.4% (37/135). Table 1 gives the distribution of respondents by use of CAM in the different age groups, gender and nationalities ($N = 135$) [Table 1].

A total of 28.9% (39/135) reported lifetime use of CAM, 53.7% (29/54) of the women and 12.3% (10/81) of the men. Respondents from the Far East countries reported maximum use 85% (6/7), followed by Pakistanis 38.5% (15/39) and then Indians and Bangladeshis 22.2% (2/9). None from the Middle East reported use of CAM. Older adults reported maximum use 40% (10/25), as against 28.8% (19/66) and 22.7% (10/44) in the younger and middle-aged adults, respectively.

The most common system used was homeopathy 53.8% (21/39), followed by ayurveda 30.8% (12/39). 76.9% (15/39) used internal preparations; 23.2% (9/39) used CAM for musculoskeletal conditions and 15.5% (6/39) for dermatological conditions.

While 28.2% (11/39) took treatment after consulting a physician, 71.8% (28/39) took CAM as self-medication, as advertised or by lay recommendations. 71.8% (28/39) reported good outcome with CAM use. Only 9.6% (13/135) had family history of use of CAM, of whom 69.2% (9/13) used CAM themselves. The family members of these patients also used homeopathy and ayurveda for musculoskeletal, dermatological and renal diseases; 69.2% (9/13) used internal preparations and 84.6% (11/13) by non-physician advice; most 69.2% (9/13) experienced good outcome.

Of the 43 respondents who answered the reason for use of CAM (74.4% [40/39] females), 33/43 (76.7%) stated the reason as good previous experience; 31/43 (72.1%) as less treatment complications and 51.1% (22/43) as it was a natural product. Of the 92 who stated the reason for non-use (76.1% [70/92] females), 25% (23/92) had not felt a need for use, 28.3% (26/92) had no knowledge, eight had bad experience with CAM, 27.1% (25/92) felt modern medicine was equally or more effective and 23.9% (22/92) felt that CAM was non-scientific.

Most of the respondents 75% (101/135) were not sure whether CAM was based on scientific evidence, and while 18% (24/135) felt it was, 46% (62/135) opined that it had fewer side-effects, while 44% (60/135) felt that it had a long-term effect. As for the users, 43% (16/39) considered CAM to be scientific and 48.7% (19/39) were unsure; 97.4% (38/39) felt they have fewer side-effects and 94.9% (37/39) were of the opinion that CAM had long-term effects [Table 2].

Older adults and females considered CAM to be scientific, having fewer side-effects and having long-term effects. Those educated above the 10th grade considered CAM to have less side-effects and as having long-term effects, but it was the less educated who considered them to be scientific.

Discussion

The factors influencing CAM use include age, gender, disease state, hospitalization, geographic region, level of education, income, belief in CAM and use of cigarettes.[14] Ceylan, *et al*.[15] concluded that the greater the age, the less the probability of CAM use. But, Barnes, *et al*.[14] concluded that older adults were more likely than younger adults to use CAM. In the present study, CAM was frequently utilized by the older age group, and they had a positive belief about the fewer side-effects and long-term effects of CAM.

Gender is also another factor influencing CAM use. Studies have shown that women were more likely to use CAM compared with men.[14,28] We also found that more women used

Table 1: Distribution of respondents by CAM use and sociodemographic variables (*N*=135)

Variable	Groups	Use of CAM				
		Users		Non-users		Total
		No.	%	No.	%	No.
Age (in years)	≤40	19	28.8	47	71.2	66
	41-60	10	22.7	34	77.3	44
	>60	10	40.0	15	60.0	25
Gender	Male	10	12.3	71	87.7	81
	Female	29	53.7	25	46.3	54
Country of origin	India	16	22.9	54	77.1	70
	Far East	6	85.7	1	14.3	7
	Pakistan	15	38.5	24	61.5	39
	Bangladesh	2	22.2	7	77.8	9
	Middle East	-	-	10	100.0	10
Total		39	28.9	96	71.1	135

CAM: Complementary and alternative medicine

Table 2: Distribution of positive respondents regarding nature and effect of CAM by age, gender and education

Variables	Groups	Positive beliefs about CAM					
		Scientific evidence		Less side-effects		Long-term effects	
		No.	%	No.	%	No.	%
Age (in years)	≤40 (*N*=66)	10	15.2	29	43.9	28	42.4
	41-60 (*N*=44)	2	4.5	17	38.6	16	36.4
	>60 (*N*=25)	6	24	16	64	16	64
Gender	Male (*N*=81)	7	8.6	27	33.3	27	33.3
	Female (*N*=54)	11	20.4	35	64.8	33	61.1
Education	≤10 (*N*=30)	7	23.3	11	36.7	11	36.7
	Higher secondary (*N*=11)	2	18.2	8	72.7	8	72.7
	University (*N*=94)	9	9.8	43	45.8	41	43.6

CAM: Complementary and alternative medicine

CAM and that women responded more positively about the scientific basis, side-effects and long-term effects. The cultural context and differing health beliefs between the genders may be the likely reason for this observation.

Disease states also influence the use of CAM.[29] Elderly women with cancer are more likely to use CAM than those without cancer.[30] People who had been hospitalized in the past year were also more likely to use CAM than those who had not been in the hospital in the past year.[14] In the present study, the CAM was more commonly utilized for musculoskeletal and dermatological conditions both among the study responders as well as their family members.

Among the multinational respondents in our study, those from the Far East, Pakistan and India frequently used CAM the most. Homeopathy was the system used most commonly, followed by ayurveda. This finding was expected as majority of the responders utilizing CAM were from the Far East, Pakistan and India, and homeopathy is frequently utilized in these countries. Also, the system of the CAM selected depends on the availability and affordability,[3] the profile of the disease states, awareness, past experience and beliefs about CAM and their social acceptance. A previous research from Israel also documented homeopathy as one of the common CAM therapies utilized by the cancer patients.[2] However, a previous report from UAE documented "herbal" as the common CAM utilized among individuals attending a primary health center.[19] Several other studies from the Middle East reported herbal preparations as the common form of CAM practiced.[22,24,31]

Previous experience with CAM and less treatment-associated complications were the common reasons stated by respondents for their use. This is unlike the study of Rodrigues-Neto, *et al.,* wherein dissatisfaction to the conventional medicine was the main reason mentioned.[32] Nearly 70% of these patients reported good outcome with CAM therapy, both for themselves as well as for their family members. This is in concordance with reports by Khalaf, *et al.*[27] The finding was expected as majority of the responders had previous experience of using CAM.

The important fact to be noted is that 70% of the users did not consult any physician, but used it with non-medical information and a similar proportion used internal preparations. Because the respondents were selected from the modern medicine health facility, it is clear that they used the CAM and the modern medicine at the same time or for different disease episodes. However, if the physician did not discuss the CAM use with the patients, the likelihood of side-effects, toxic effects and drug interactions with polypharmacy would increase, especially among the older adults. Because more than 90% of the respondents considered CAM to have fewer side-effects, they would probably not attribute such symptoms to these therapies. In view of the fact that the WHO[3] has already considered educating the clinicians regarding CAM, and has already drawn out a method for physicians to take CAM history, in a multicultural multinational country like UAE, with licensed practitioners for a variety of health systems, it places a demand on the modern medicine practitioners to demonstrate the cultural competency to discuss this matter at every clinical encounter for safe practice.

It was noted that a large proportion of the respondents 75% were not sure whether CAM was based on scientific evidence and, among the CAM users, about 48.7% were unsure of the scientific basis. This finding suggests that patients should be given evidence-based information regarding the CAM therapy about efficacy, adverse effects and possible interactions, to guide their decision making related to CAM use. There is a limited number of randomized clinical trials in CAM-associated therapies, which is a serious concern, as this limits the availability of substantial evidence of its effectiveness.

Limitations of the study

The results cannot be generalized to the UAE as the present research included only one tertiary private hospital. The study however has to be extended to primary care and government health institutions, and the CAM care facilities for generalization. The possibility of respondent bias at the modern medicine facility while answering about CAM cannot be totally disregarded, although the survey was anonymous. The questionnaire was kept very simple for the present survey however, enlisting all the systems considered would have provided a clearer definition of the CAM therapies to the respondents for more specific data.

Further studies can be undertaken among the multiple centers, including pediatric age group, the disabled and the domiciliary and institutional care facilities for a more complete picture. A detailed inquiry is required to assess the need for physician education to take CAM history from their patients, which may become the basis for planning appropriate training.

Conclusion

About one-third of the seekers of modern medicine care also use CAM, and mostly without physician advice; hence, the importance of discussing the same while taking the clinical history. Healthcare providers should be aware of the various CAM interventions used by patients in self-management to educate patients appropriately about the safety, efficacy and associated interactions with conventional medicine. In view of the belief that CAM has fewer side-effects, there is even more need for physician-initiated discussion and both epidemiological and laboratory research to ensure safe practice and adoption of beneficial methods as recommended by the WHO.

References

1. Gozum S, Tezel A, Koç M. Complementary and alternative medicine used by patients with cancer in eastern turkey. Cancer Nurs 2003;26:230-6.
2. National Center for Complementary and Alternative

Medicine. (2007). What is CAM? [NNCAM CAM basics] NNCAM Publication No. D347. 2008. Available from: http://nccam.nih.gov/health/whatiscam/? [Last accessed on 2011 Jul 9].

3. World Health Organization WHO traditional medicine strategy 2002-2005. Geneva: WHO; 2002. Available from: http://whqlibdoc.who.int/hq/2002/who_edm_trm_2002.1.pdf. [Last accessed on 2010 Jul 10].
4. Post-White J. Complementary and alternative medicine in pediatric oncology. J Pediatr Oncol Nurs 2006;23:244-53.
5. National Centre for complementary and Alternative Medicine. The Use of Complementary and Alternative Medicine in the United States. Available from: http://nccam.nih.gov/news/camstats/2007/camsurvey_fs1.htm. [Last accessed on 2012 Feb].
6. Kelly KM, Jacobsen JS, Kennedy DD, Braudt SM, Mallick M, Weiner M. Use of unconventional therapies by children with cancer at an urban medical center. J Pediatr Hematol Oncol 2000;22:412-6.
7. Lee GB, Charn TC, Chew ZH, Ng TP. Complementary and alternative Singapore medicine use in patients with chronic diseases in primary care is associated with perceived quality of care and cultural beliefs. Fam Pract 2004;21:656-62.
8. Crawford NW, Cincotta DR, Lim A, Powell CV. A cross-sectional survey of complementary and alternative medicine use by children and adolescents attending the university hospital of Wales. BMC Complement Altern Med 2006;6:16.
9. Arush MW, Geva H, Ofir R, Mashiach T, Uziel R, Dashkovsky Z. Prevalence and characteristics of complementary medicine used by paediatric cancer patients in a mixed western and middle-eastern population. J Pediatr Hematol Oncol 2006;28:141-6.
10. Yeh CH, Tsai JL, Li WJ, Lee SC, Yang CP. Use of alternative therapy among pediatric oncology patients in Taiwan. J Pediatr Hematol Oncol 2000;17:55-65.
11. Martel D, Bussieres JF, Theoret Y, Lebel D, Kish S, Moghrabi A, *et al*. Use of alternative and complementary therapies in children with cancer. Pediatr Blood Cancer 2005;44:660-8.
12. Herman CJ, Allen P, Hunt WC, Prasad A, Brady TJ. Use of complementary therapies among primary care clinic patients with arthritis. Prev Chronic Dis 2004;1:A12.
13. Balkees AB, Hasan AA. Self-reported use of complementary and alternative medicine (CAM) products in topical treatment of diabetic foot disorders by diabetic patients in Jeddah, Western Saudi Arabia. BMC Res Notes 2010;3:254.
14. Barnes PM, Powell-Griner E, McFann K, Nahin RL. Complementary and alternative medicine use among adults: United States, 2002. Adv Data 2004;27:1-19.
15. Ceylan S, Azal O, Taşlipinar A, Türker T, Açikel CH, Gulec M. Complementary and alternative medicine use among Turkish diabetes patients. Complement Ther Med 2009;17:78-83.
16. Offit PA. Studying complementary and alternative therapies. JAMA 2012;307:1803-4.
17. Miller M, Boyer MJ, Butow PN, Gattellari M, Dunn SM, Childs A. The use of unproven methods of treatment by cancer patients. Support Care Cancer 1998;6:337-47.
18. El-Gendy AR. Regional overview: Eastern mediterranean region. In: Bodeker G, Ong CK, Grundy C, Burford G, Shein K, editors. WHO Global Atlas of Traditional, Complementary and Alternative Medicine. ISBN 92 4 156286 2. 1211 Geneva 27, Switzerland: WHO, WHO Press, World Health Organization, Centre for Health Development, Kobe, Japan, 2005. p. 151-81.
19. AlBraik FA, Rutter PM, Brown D. A cross-sectional survey of herbal remedy taking by United Arab Emirate (UAE) citizens in Abu Dhabi. Pharmacoepidemiol Drug Saf 2008;17:725-32.
20. Hasan MY, Das M, Behjat S. Alternative medicine and the medical profession: Views of medical students and general practitioners. East Mediterr Health J 2000;6:25-33.
21. Weyl Ben Arush M, Geva H, Ofir R, Mashiach T, Uziel R, Dashkovsky Z. Prevalence and characteristics of complementary medicine used by pediatric cancer patients in a mixed western and middle-eastern population. J Pediatr Hematol Oncol 2006;28:141-6.
22. Hana G, Bar-Sela G, Zhana D, Mashiach T, Robinson E. The use of complementary and alternative therapies by cancer patients in northern Israel. Isr Med Assoc J 2005;7:243-7.
23. Akinci AC, Zengin N, Yildiz H, Sener E, Gunaydin B. The complementary and alternative medicine use among asthma and chronic obstructive pulmonary disease patients in the southern region of Turkey. Int J Nurs Pract 2011;17:571-82.
24. Ali-Shtayeh MS, Jamous RM, Jamous RM. Herbal preparation use by patients suffering from cancer in Palestine. Complement Ther Clin Pract 2011;17:235-40.
25. Wazaify M, Afifi FU, El-Khateeb M, Ajlouni K. Complementary and alternative medicine use among Jordanian patients with diabetes. Complement Ther Clin Pract 2011;17:71-5.
26. Naja F, Alameddine M, Abboud M, Bustami D, Al Halaby R. Complementary and alternative medicine use among pediatric patients with leukemia: The case of Lebanon. Integr Cancer Ther 2011;10:38-46.
27. Khalaf AJ, Whitford DL. The use of complementary and alternative medicine by patients with diabetes mellitus in Bahrain: A cross-sectional study. BMC Complement Altern Med 2010;10:35.
28. Clifford RM, Batty KT, Davis W, Davis TM. Prevalence and predictors of complementary medicine usage in diabetes: Fremantle diabetes study. J Pharm Pract Res 2003;33:260-4.
29. Shmueli A, Shuval J. Complementary and alternative medicine: Beyond users and nonusers. Complement Ther Med 2006;14:261-7.
30. Shannahoff-Khalsa DS. Kundalini yoga meditation techniques for psycho-oncology and as potential therapies for cancer. Integr Cancer Ther 2005;4:87-100.
31. Omeish AF, Abbadi W, Ghanma IM, Drabaa Z, Botoosh FA, Seif A, *et al*. Hospital-based study on the use of herbal medicine in patients with coronary artery disease in Jordan. J Pak Med Assoc 2011;61:683-7.
32. Rodrigues-Neto JF, Figueiredo MF, Faria AA. Prevalence of the use of homeopathy by the populationof Montes Claros, Minas Gerais, Brazil. Sao Paulo Med J 2009;127:329-34.

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