Original Article

Prevalence & Perception of CAM Usage in Majmaah, Kingdom of Saudi Arabia

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ABSTRACT

Background: Complementary & alternative medicine is very popular among people due to it being cheap, readily available, religious and cultural associations, and having the least side effects. In KSA, so far, no study on CAM usage in public has been conducted in Majmaah governorate.

Objective: The objectives of the study were to determine the prevalence and perception of CAM usage among the general population of Majmaah city KSA.

Methods: The study was conducted from January to March 2016 on 208 individuals. A self-reporting questionnaire was filled in by the participants of both genders above 15 years of age.

Results: The prevalence of CAM usage was 66.3%. The primary type of CAM practice was herbal remedies (68.4%) followed by Hijamma (25%) and acupuncture (4.4%). There was no statistical association between CAM usage and gender, age, or nationality. However, the level of education had a linear relationship with the use of CAM. The majority of participants who used CAM were more than 35 years (n=60, 43.7%) and the main reason for CAM use was the treatment

انتشار وفحص استخدام الطب التكميلي والبديل في المجمعة ، المملكة العربية السعودية

الملخص:

خلفية

الطب التكميلي والبديل يحظى بشعبية كبيرة في المجتمع كونه رخيص ، متوفر ، متوافق مع المفاهيم العقائدية و الثقافات المحلية ، ولديه أقل الآثار الجانبية. في المملكة العربية السعودية هنالك قلة في الدراسات المتعلقة باستخدام الطب التكميلي والبديل في المجتمع بمحافظة المجمعة.

الاهداف

هدفت الدراسة إلى تحديد مدى انتشار وتصور استخدام الطب التكميلي والبديل بين عامة السكان في مدينة المجمعة بالمملكة العربية السعودية.

طريقة البحث

أجريت الدراسة من يناير إلى مارس ٢٠١٦ على ٢٠٨ شخص. تم ملء استبيان الإبلاغ الذاتي من قبل المشاركين من كلا الجنسين فوق ١٥ سنة من العمر.

النتائج

كان انتشار استخدام الطب التكميلي والبديل (٦٦,٣٪) . النوع الأساسي لممارسة الطب التكميلي والبديل كان العلاجات العشبية (٦٨,٤ ٪) تليها الحجامة (٢٥٪) والوخز بالإبر (٤,٤٪). لم يكن هناك ارتباط إحصائي بين استخدام الطب التكميلي والبديل والجنس أو السن أو الجنسية. ومع ذلك كان لمستوى التعليم علاقة احصائية مع استخدام الطب التكميلي والبديل. غالبية

of chronic ailment and body pains (33% & 13%).

Conclusion

Majority of participants exercise and advocate CAM in Majmaah city. Therefore, physicians should also encourage safe CAM practices in patients.

Keywords: Complementary medicine, Alternative medicine, Prevalence, Saudi Arabia

المشاركين الذين استخدموا الطب التكميلي والبديل كانوا أكثر من ٣٥ سنة (العدد = ٦٠ ، ٤٣,٧٪) والسبب الرئيسي لاستخدام الطب التكميلي والبديل لعلاج الأمراض المزمنة وآلام الجسم (٣٣٪ و ١٣٪).

الخلاصة

غالبية المشاركين يمارسون ويدافعون عن الطب التكميلي والبديل في مدينة المجمعة. ولذلك ينبغي للأطباء أيضًا تشجيع المرضى لممارسات الطب التكميلي والبديل الآمنة.

الكلمات المفتاحية: الطب التكميلي ، الطب البديل ، الانتشار ، المملكة العربية السعودية

INTRODUCTION

The term Complementary & alternative medicine (CAM) is a broad one. It includes therapies and procedures not covered in the traditional allopathic medicine. Thus, a substantial number of locally and internationally acknowledged treatment modalities and practices come under this umbrella. Complementary medicine is the form of therapy that is used in conjunction with the conventional allopathic medicine; whereas alternative medicine is the one that is used in place of allopathic medicine.[1] Complementary medicine is popular both in developed and developing world. According to WHO, around 80% of the population in the developing countries use complementary medicine.[2] The CAM includes varied and divergent therapeutic modalities including well-known acupuncture, herbs, chiropractic, massage therapy, homeopathy, Unani medicine, dietary supplement including honey, lemon, ginger, specific teas, probiotics, fish oil, fatty acids, etc. Also included in this form of treatment are expressive therapies like dance, music, art, writing therapy, and faith healing like prayer, recitation of Quran, spiritual healers, yoga, etc., and the list is never ending due to distinct cultural differences.

A few decades back, the idea of CAM was envisaged by the conventional allopathy as useless and ineffective means of treatment. However, despite negativism shown by the allopathy, the CAM industry has not only survived but has bloomed with an estimated annual worldwide market of US$ 60 Billion.[3,4] In the USA alone, the CAM usage increased from 33.8% in 1990 to 42.1% in 1997[5]. Similarly, another study by CDC in 2007 revealed that in the USA, the CAM usage was approximately 40% among adults in the past one year.[1] Data from studies conducted in the western world suggests that around half of the population has used some form of CAM in their lifetime. For example, 48% of the residents in Australia, 49% in France, and up to 41.1% in UK citizen use CAM practices to address their health problems.[6,7,8]

In KSA, various studies have been conducted about CAM usage in selected cohorts.[9, 10, 11] Few observational studies carried out in the populace of different areas in KSA showed a higher prevalence of CAM usage in this part of the world. For example, two studies conducted in the general population in Riyadh and Qassim regions showed CAM usage

of 85% and 74% respectively.[12,13] No study has been carried out so far that that looks into the prevalence of CAM usage by the inhabitants of Majmaah city, KSA. Therefore, we conducted a study to determine the prevalence of complementary and alternative medicine usage, and its perception among the general population of Majmaah city.

MATERIALS AND METHODS

Definition:

We used the National Center for Complementary and Alternative medicine (NCCAM) definition of the terms complementary and alternative medicine. Accordingly, the term complementary medicine means if a non-mainstream practice is used together with conventional medicine, it is regarded as "complementary." Whereas if a non-mainstream practice is used in place of conventional medicine, it is considered "alternative".[14] This definition was used to explain the participants during filling of the questionnaire by the researchers.

Study type and setting:

This was a cross-sectional study conducted at Majmaah city. Al Majmaah is a city and governorate of Riyadh province. It is located in north-eastern part of KSA with a population of approximately 45,000 and area of about 30,000 square km.

Study participants:

All Saudis and non-Saudis above 15 years of age belonging to both genders of Majmaah city were included in the study. The minimum age of 15 years was selected to rule out all the minors who could not use any form of CAM by their own choice. No pre-determined quota for participation in this study was fixed regarding gender, age, or nationality; the number was dependent upon the convenience of participation.

Inclusion and exclusion criteria:

Individuals directly involved in CAM profession were excluded, and so were children younger than 15 years. The participants were verbally asked about the city of residence, and any person who was non-resident of Al Majmaah city was excluded. All people were included in the study irrespective of the socioeconomic status, health status, nature of the job, education status. However, these parameters were noted in the study.

Duration of study:

The study was of three months duration, starting from the first of January until 31 March 2016.

Sample size:

The sample size of 250 was calculated using the level of precision formula keeping in view that 85% of the population will answer the question.[15]

Study setting and plan:

The study was conducted at general markets, hospitals, educational institutions (schools, colleges), and general public parks. The researchers were divided into three groups. One research group visited King Khalid Hospital Al Majmaah and other private hospitals, the second group visited general parks and markets, while the third group visited schools and colleges. It was ensured

that none of the individual's participation was duplicated.

Study questionnaires:

A study questionnaire comprising 11 questions pertaining to CAM usage and perception was self-developed and subsequently validated by checking its psychometric properties, the reliability of the questionnaire was 0.71 which was checked by Cronbach alpha showing that it is acceptable.

The first part of the questionnaire included demographic information like age, gender, nationality, and educational status. The second part included the questions related to CAM practices. The majority of the questions were closed-ended (Yes/ No or ticking most likely responses) while few were open-ended. The issues included in the questionnaire asked about the awareness, usage, type, reason, & frequency of CAM practice, use of CAM alone or with conventional allopathy medication, experience of unwanted side effects of CAM, efficacy of CAM, whether CAM was cheaper, willingness to recommend CAM to others, and finally the source of CAM treatment (authorized/ unauthorized).

Verbal consent was taken after explaining the purpose of the study. The participation was purely voluntary. The identity of the participant was kept confidential. Participants were encouraged to reply to all the questions. However, the partially filled responses were still included in the study.

Ethical approval:

Ethical approval was taken from Majmaah Research Institutional Ethics Committee of Basic & Health Science, Research Center Majmaah.

Data analysis:

The data collected from the study questionnaire was entered in IBM SPSS Statistics. Mean, median, and the standard deviation was used for quantitative data while frequencies were used for qualitative data. Chi-square test was used for comparative statistics of demographic variables with different variables of the questionnaire. A p value of <0.05 was taken as a statistically significant relationship.

RESULTS

Out of 250 planned samples, 208 returned the filled questionnaire (28 refused to participate, 11 did not return the questionnaire, while three responses were found to be duplicate and hence excluded from the study). The response rate in our study was 83.2%. The mean age of the participants in this study was 27.15 years (range 15-64 years) while the median age was 23 years (standard deviation ±12.04). Out of 208 samples, 131 participants were males, and the majority of respondents were Saudi national (n=182). Regarding educational background, out of 208 participants, only 7 (3.4%) were illiterate while more than half of our samples (n=112) had the qualification of middle school (Table-1).

Table-1. Sociodemographic data		
Demographic data	Number	Percent
Age		
Range (years)	15-64	
Mean & Standard deviation (years)	27.15 ±12.04	
Gender		
Male	131	63%
Female	77	37%
Total	**208**	**100%**
Nationality		
Saudis	182	87.5%
Expatriates	26	12.5%
Total	**208**	**100%**
Educational level		
Elementary	11	5.3%
Middle	112	53.8%
University	78	37.5%
Illiterate	7	3.4%
Total	**208**	**100%**

In our questionnaire, the first question was "Do you know what Complementary & Alternative Medicine is?" One hundred and ninety-seven out of 208 participants, (94.7%) stated that they had the knowledge of CAM, whereas 11 participants (5.3%) had no idea about it. The second question was "Have you ever used CAM?", 136 out of 208 participants responded positively about using "CAM" at least once in their lifetime, whereas 61 participants (33.7%) had never used it. Therefore, in our study, the prevalence of CAM usage was 66.3%.

Table-2. Awareness and behavior about CAM practice			
Q No	**Question statement**	**Response**	
		Yes n (%)	**No n (%)**
1	Do you know what "Complementary & Alternative Medicine" is?	197 (94.7)	11 (5.3)
2	Have you ever used "CAM"?	138 (66.3)	70 (33.7)
6	Do you think "CAM" is effective?	127 (93.4)	9 (6.6)
8	Did you experience any "unwanted" effects while using "CAM."?	15 (11)	121 (89)
9	Do you find "CAM" cheaper than allopathy medicine?	106 (77.9)	30 (22.1)
10	Would you recommend "CAM" to someone?	120 (88.2)	16 (11.8)

About the third question "How frequently do you use CAM?", sixteen respondents replied that they usually used CAM, 52 used it often, while 68 used it rarely. About the reason of CAM use, the majority (n=53) used it for chronic medical conditions while twenty-six (16%) used CAM because it was effective (Table-3).

Table-3 Frequency and reason of CAM use

Q No	Question statement	Responses (n=136)			
	Usually* n (%)	Often† n (%)	Rarely‡ n (%)		
3	How frequently do you use "CAM"?	16 (11.8)	52 (38.2)	68 (50)	
		Responses			
			Reasons	n	%
4	Why do you use/do not use "CAM"?	1	Chronic medical conditions	53	33%
		2	Because it works	26	16%
		3	Pain management	21	13%
		4	Custom	17	11%
		5	Convenience	16	10%
		6	No reason	14	9%
		7	Religious beliefs	13	8%
			Total	**136**	**100**

Usually means once in a week*
Often means once in a month†
Rarely means once in a year or fewer‡

About the type of CAM use, the majority reported the use of herbal remedies (n=93, 68.4%) followed by Hijaama (n=34). The details are shown in Table-4.

Table-4. Types of CAM usage by the general population

Q No.	Question statement	Type of CAM modality used	Number	Percent
		Herbal	93	68.4%
5	What kind of "CAM" do you use?	Hijama	34	25%
		Acupuncture	6	4.4%
		Others	3	2.2%
		Total	**136**	**100**

In reply to the question, "Do you use "CAM" alone or with prescribed or non-prescribed drugs?" sixty-three out of 136 CAM users (46.3%) had taken allopathic drugs alongside CAM therapy, and 73 (53.7%) had received this type of practice alone (Table-5).

Table-5 Use of CAM with or without conventional medicine

Q No	Question statement	Responses (n=136)	
		Alone n (%)	With prescribed drugs n (%)
7	Do you use "CAM" alone or with prescribed or non-prescribed drugs?	73 (53.7%)	63 (46.3%)

The majority of the respondents thought that CAM was effective (n=127, 93.4%), while nine participants (6.6%) thought CAM to be equivocal or non-effective. A majority of the respondents (n=121, 89%) reported no side effects with this form of treatment. Although CAM therapy is considered safe, it is not without side effects . Pneumothorax due to acupuncture, dermatitis and allergic conditions by the use of herbal ointments have been reported in the literature.[16] About 77.9% (n=106) participants believed that CAM therapy was cheaper than conventional allopathy medicine, and one hundred and twenty(88.2%) were of the opinion that they would strongly recommend CAM to their fellow colleagues(Table-2). The majority of the participants (n=65, 47.8%) obtained CAM treatment from homemade remedies, followed by herbal shops (n=46), and 25 got it from authorized facilities (18.4%) (Table-6).

Out of a total of 197 participants who knew about CAM, 136 (69%) had used CAM while 61 participants (31%) had not used CAM even once in their life. The maximum number of participants who used CAM belonged to age group >35 years (n=60) while the highest figure for non-users of CAM treatment belonged to the age group 15-20 years(n=38) (Table-7).

Out of those 136 participants who used CAM, 63 (46.3%) were middle school attendant, and 61 (44.9%) were university licentiates while in the group who did not use CAM, 42 (68%) were middle school attendant, and 15 (24.6%) were university attendant (Table-7).

In this study, no significant association was observed between gender and the use of CAM (P=0.197). Out of 136 participants who had used CAM, 91 (66.9%) were male while in the group who hadn't used CAM, 35

Table-6. The place from where CAM practiced

No.	Question statement	Place of CAM usage/ practice	Number	Percent
11	From where do you get/ practice "CAM"?	Homemade	65	47.8%
		Herbal shop	46	33.8%
		Authorized facilities	25	18.4%
		Total	**136**	**100**

(57.4%) were male (Table-7). Similarly, no significant association was observed between nationality and the use of CAM (P=0.953). Out of 136 participants who had used CAM, 120 (88.2%) were Saudis, and 16 (11.8%) were expats while the ratio of Saudis to expats in the second group who hadn't used CAM, it was 88.5% and 11.5% respectively (Table-7).

Table 7 Correlation of CAM usage with different variables

1. CAM usage & Age			
Age (years)	Have you ever used CAM		Total
	Yes n (%)	No n (%)	
15-20	40 (29.1%)	38 (62.2%)	78
21-35	36 (26.2%)	17 (27.6%)	53
>35	60 (43.7%)	6 (9.6%)	66
Total	136	61	197
2. CAM usage & Education level			
Education level			
Illiterate	4 (2.9%)	2 (3.3%)	6
Elementary school	8 (5.9%)	2 (3.3%)	10
Middle school	63 (46.3%)	42 (68.9%)	105
University	61 (44.9%)	15 (24.6%)	76
Total	136	61	197
Pearson Chi Square =9.07, p=0.028			
3.CAM usage & Gender			
Gender			
Male	91(66.9)	35(57.4)	126
Female	45 (33.1)	26 (42.6)	71
Total	136	61	197
Pearson Chi Square =1.661, p=0.197			
4. CAM usage & Nationality			
Nationality			
Saudi	120 (88.2%)	54 (88.5%)	174
Non-Saudi	16 (11.8%)	7 (11.5%)	23
Total	136	61	197
Pearson Chi Square =0.003, p=0.953			

DISCUSSION

The theoretical description of CAM is extensive and encompasses scores of healing domains and practices prevalent in a particular culture or practiced worldwide. CAM practices include two main types; natural products (honey, herbs, etc.) and mind-body medicine (yoga, chiropractic , acupuncture, etc.). As per the European definition of CAM, many treatment modalities are being utilized by the conventional healthcare, and there is a gray zone between the two forms of treatment.[17, 18] In our study, the prevalence of CAM use was 66.3%.This is comparable to other studies in the world with the prevalence of 50% in Tokyo, Japan in 2002[19], 47% in the USA in 2002[5], 48.5% in Australia in 1996.[6] Studies from KSA revealed higher levels of CAM usage prevalence, for example, a study carried out in Riyadh region in 2008 in a household survey, showed that around 73% of population utilized some form of CAM.[20] Another study on 518 sample size in the Riyadh region revealed prevalence percentage of 84.6.[12] In yet another study conducted in 2011 on a sample size of 1160 individuals in Qassim district, the prevalence of CAM usage was 74% overall.[13] The reason of low CAM usage compared to other studies in KSA could be due to the fact that the vast modalities used in CAM may not have been known to the general public and also our researchers might not have time to explain all CAM practices to the participants.

The study population in our study were all citizen of Majmaah city of both genders with age limit of more than or equal to 10 years and above. In our study, there was disproportionate of male and female participants with 131 male compared to 71 female. This difference was probably due to less number of visits by our male researchers in the educational campuses of the female. In public places like markets, souqs, parks, etc. the proportion of male and female was almost equal. Despite this difference, our results showed that there was no statistical difference between the use of CAM and gender (p=0.197). This is in contrast to a general observation that the CAM usage is more prevalent among female compared to male due to access to the advertisement and availability of time to avail such practices.[21, 22]

In our results, there was a statistically significant difference between the CAM users and the level of education (p=0.028) to those who did not use CAM. It is evident from Table-7 that middle school and university degree holders used CAM more than the illiterate and those with primary level education. This is explainable due to the fact that educated class is more aware of the benefits and shortcomings of both traditional and conventional medicine. Similarly, the leading age group involved in the use of CAM was >35 years (n=60, 43.7%) in comparison to the age group of 15-20 years who did not use CAM(n=38, 62.2%). This is in contrast to western studies that revealed that CAM usage was more prevalent among young children and adolescents.[23, 24] In the western world, it is understandable as young children and teenag-

ers start to make independent decisions about their health and fitness, and thus they turn towards such form of therapies.

All participants who used CAM, the majority used the CAM rarely (n=68), while 16 reported using CAM usually (once a week). The main reason of CAM use was the treatment of chronic ailment (n=53), e.g., hypertension, acne, hyper or hypothyroidism, insomnia, fatigue, body aches, etc.(The breakup data not shown). Chronic pain especially backache was also the main reason to use CAM (n=21). It is clear that the treatment of a chronic backache is quite expensive and requires different surgical as well as rehabilitation therapies.

Herbal remedies were the most common type of CAM used by our participants (n=93), followed by Hijamma (n=34), and acupuncture (n=6). These findings are in accordance with findings by Norah et al. [20] where the herbal practice was the primary mode of CAM therapy in the Riyadh region. In another study by Abdulaziz A et al. on patients of liver disease visiting at tertiary care hospital Riyadh, the primary mode of CAM use by patients with the liver disorder was honey, followed by herbs.[9]

One of our interesting findings was that the majority of the respondents admitted that CAM was cheaper modality (77.9%). As the healthcare system is free for the resident Saudis, still they considered CAM as inexpensive. The reason could be that all those who visited the private hospitals might have compared the treatment cost of allopathy to the CAM. About the effectiveness of CAM practice, 93.4% responded that CAM was an effective practice. The logical explanation could be that Saudi Arabia is a religious Islamic country and Prophetic medicine has deep historical roots in its culture.

Similarly, the majority of the CAM users depended upon homemade therapies (n=65, 47.8%), while a call to herbal shops was the second most visited source (n=46), and 25 attended authorized facilities for CAM. Lack of advertisement and ignorance of such services could be the reasons for a small number of visits to authorized CAM facilities by our respondents.

LIMITATIONS OF STUDY

Our study had a small sample size that could result in type 2 error. Moreover, the gender representation was also not the reflection of the population. This was due to traditional norms that restricted the access of our male researchers to collect data from the female students studying in various educational institutes.

In our study, we did not put a time bar for CAM usage. This could result in recall bias. Another study should be conducted with time limits to resolve the problem of recall bias. Our study was cross-sectional, and the participants had to self-report the information which could result in reporting bias. This study was limited to one city of Al Majmaah, and hence our findings could not be extrapolated to other parts of KSA.

CONCLUSION

Complementary and alternative medi-

cine is a major component of a healthcare system worldwide that has gained widespread acceptance in the general population. The prevalence of CAM usage is high in KSA that is also supported by the present study. The majority of the people of Majmaah city use and advocate the CAM treatment. Physicians should acknowledge this fact and encourage their patients to use safe CAM practice from authorized sources.

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