

# Knowledge, Attitude and Practice of Primary Health Care Physicians in Bahrain towards Complementary and Alternative Medicine (CAM)

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## Abstract

**Introduction :** The use of CAM has become popular and widely practiced among the general population. The integration of CAM into the ordinary medical system has been encouraged by World Health Organization (WHO) to improve the quality of care in the health for all strategy. This research aims at studying the knowledge, attitude and practice of primary health care doctors towards CAM in Bahrain.

**Method:** A cross sectional study of all the 323 primary health care doctors who are working in the governmental health centers in Bahrain were the study population. A self-filled questionnaire was used for data collection. The Questionnaires were distributed to all primary health care doctors by name and collected after one week through the chief of medical services of primary health care. Data were entered and analyzed using SPSS program version 18.

**Results:** Two hundred and twenty two (68.7%) questionnaires out of 323 questionnaires were completed. Around half (50.5%) of the respondents stated that they have a poor level of knowledge about CAM, while only 6 (2.7%) of them stated that they have an excellent level of knowledge. General non-medical sources were the main source of

knowledge about CAM with general reading ranked as the main source (48.2%), followed by general media like TV and radio (34.2%), and followed by internet (23%).

In general, the attitude of primary care doctors toward CAM was positive with 72.5% of them interested in CAM, 81.1% believe that training in CAM would affect their practice as doctors, and 73.9% agreed that CAM is beneficial.

Regarding the practice of PHC doctors toward CAM, more than half (59.5%) had used CAM with their patients, while only 23% of them had referred patients to CAM practitioners. Most of PHC doctors (79.7%) stated that they asked their patients about the use of CAM.

**Conclusion:** Primary Health Care doctors in Bahrain have a poor knowledge about CAM and would like to know more about it. On the other hand, they have a good attitude towards using CAM with their patients.

**Key words:** Knowledge, Attitude, Practice, Primary Health Care, Complementary, Alternative, Bahrain.

## Background

The National Centre for Complementary and Alternative Medicine (CAM) define CAM as “a group of diverse medical and health care systems, practices and products that are not presently considered to be part of conventional medicine”. [1] CAM usually refers to a large range of therapies outside the mainstream of western medicine. [2] Some of these therapies receive a reasonable acceptance by the medical Profession whereas others are viewed with much scepticism, especially those that have little evidence behind them. [3]

The use of CAM has become popular and widely practiced among the general population. [4,5] Several studies showed that the use of CAM in different populations, including industrialized countries, reaches between one third to more than half of the general population and up to 98% in some other settings.[4,6,7,8,9]

The integration of CAM into the ordinary medical system has been encouraged by World Health Organization (WHO) to improve the quality of care in the health for all strategy.[10]

A study in Saudi Arabia showed that 23.9% of primary health care patients reported previous use of traditional remedies. [11]

Because of this wide use of CAM, primary health care professionals and GPs should be ready to discuss the indications, contra indications, and potential side effects of CAM.[12]

Several previous studies examined the knowledge, attitude and/or practice of GPs toward CAM. [13,14]

A study in Qatar conducted in 2008, reported that 39.1% of General Practitioners had poor knowledge about Complementary and Alternative Medicine. Self-reported knowledge was highest for counselling and psychotherapy (69.0%), diet and supplements (68.1%), acupuncture (45.2%), herbal medicine (47.3%) and massage (42.5%). [15] Another study in Kuwait showed that the majority of the GPs (78.4%) stated that their knowledge about CAM therapy was poor. Self-reported knowledge about specific CAM therapies was highest for herbal and acupuncture (33.0%), and was the lowest for chiropractic (2.3%).[16]

This research aims at studying the knowledge, attitude and practice of primary health care doctors towards CAM in Bahrain.

## Methods

A cross sectional study of all the 323 primary health care doctors who are working in the governmental health centers in Bahrain has been conducted. Those who were on leave during the study period or refused to participate were excluded.

A self-filled questionnaire was used for data collection. The items of the questionnaire were adopted from a previous studies conducted in Qatar. [15]

The following items were included in the questionnaire:

- Demographic (age, sex, nationality)
- Work factors (qualification, years of experience, morning or evening shift)
- Knowledge (definition of CAM, Types of CAM, effectiveness of CAM, health hazards of CAM)
- Attitude (interest in CAM, legalization of CAM)
- Practice (prescribing CAM to patients, referral to CAM practitioner)

An instruction about filling the questionnaire was provided with each questionnaire and clear instruction for each question was included.

The Questionnaires were distributed to all primary health care doctors by name and collected after one week through the chief of medical services of primary health care.

Data were entered and analyzed using SPSS program version 18.

## Results

Two hundred and twenty two (68.7%) questionnaires out of 323 questionnaires were completed by primary health care (PHC) doctors working in the Ministry of Health.

Around two thirds (68.5%) of the respondents were above 40 years of age and the same proportion (68.5%) were females. The majority of them (83.8%) were Bahrainis. Around three quarters (74.8%) were a graduate of Family Residency program. More than half (64%) of the respondents had 10 years or more of experience as a primary health care physician. (Table 1 - next page)

Around half (50.5%) of the respondents stated that they have a poor level of knowledge about CAM, while only 6 (2.7%) of them stated that they have an excellent level of knowledge. General non-medical sources were the main source of knowledge about CAM with general reading ranked as the main source (48.2%), followed by general media like TV and radio (34.2%), and followed by internet (23%). On the other hand, the medical sources including medical journals (18.5%), specialized workshops (9.5%) and formal medical education (8.6%) were minor sources of knowledge about CAM among the participants. (Table 2 - next page)

**Table 1: Demographic characteristics of the studied primary health care doctors in Bahrain (n = 222)**

Characteristic	No.	%
<b>(Age (years</b>		
<40	70	31.5
≥40	152	68.5
<b>Sex</b>		
Female	152	68.5
Male	70	31.5
<b>Nationality</b>		
Bahraini	186	83.8
Non Bahraini	36	16.2
<b>Qualifications</b>		
family residency program graduate	166	74.8
Others	56	25.2
<b>Experience as a primary health physician (years)</b>		
1-5 Yrs.	37	16.7
6-10 Yrs.	43	19.4
11-15 Yrs.	32	14.4
16-20 Yrs.	47	21.2
21-25 Yrs.	40	18.0
=>26 Yrs.	23	10.4

**Table 2: Self-reported level of knowledge of primary health care doctors in Bahrain about complementary and alternative medicine (CAM) (n = 222)**

Item	No.	%
<b>Level of knowledge about CAM</b>		
Excellent	6	2.7
Good	104	46.9
Poor	112	50.5
<b>Main source of knowledge about CAM</b>		
<b>1. General non medicine sources</b>		
General reading	107	48.2
General media (TV, Radio, TV)	76	34.2
Internet (non-medical sites)	51	23.0
<b>2. Medical sources</b>		
Medical journals	41	18.5
Specialized Workshop	21	9.5
As part of formal medical education	19	8.6
<b>Receive any formal training in CAM</b>		
No	169	76.1
Yes	53	23.9
<b>Receiving formal training in CAM from</b>		
Family resident program	27	50.0
Continue medical education	23	42.6
University	4	7.4

When the participants were asked regarding their level of knowledge about the different types of CAM therapies, those who ranked their knowledge as excellent, very good or good about diet and supplement were 56.8%, about counseling and psychotherapy were 52.7%, and about herbal medicine were 28.8%. On the other hand, they ranked their level of knowledge as poor regarding acupuncture (64.9%), faith healing (69.8%), homeopathy (71.6%), naturopathy (77.5%), and Chiropractic (79.3%). (Table 3)

**Table 3: Self-reported level of knowledge of primary health care doctors in Bahrain about different complementary and alternative medicine (CAM) therapies (n = 222)**

Type of CAM	Excellent/V. Good/Good %	Average %	Poor %
Diet/supplements	56.8	29.7	13.5
Counseling & psychotherapy	52.7	31.1	16.2
Herbal medicine	28.8	32.0	39.2
Massage	18.9	31.5	49.5
Acupuncture	11.7	23.4	64.9
Faith healing	8.1	22.1	69.8
Homeopathy	7.7	20.7	71.6
Naturopathy	4.5	18.0	77.5
Chiropractic	4.5	16.2	79.3

In general, the attitude of primary care doctors toward CAM was positive with 72.5% of them interested in CAM, 81.1% believe that training in CAM would affect their practice as a doctors, and 73.9% agreed that CAM is beneficial. (Table 4)

**Table 4: Attitudes of primary health care doctors in Bahrain towards complementary and alternative medicine (CAM) (n = 222)**

Item	%
<b>Primary care doctor interested in (CAM)?</b>	
Yes	72.5
don't know	14.0
No	13.5
<b>training in (CAM) would affect your practice as a doctor</b>	
Yes	81.1
don't know	10.8
No	8.1
<b>agree that (CAM) is beneficial</b>	
Yes	73.9
don't know	21.6
No	4.5
<b>Interested in attending future courses in CAM</b>	
Yes	89.2
don't know	6.3
No	4.5
<b>Areas of CAM would you like to know more about</b>	
Side-effects and safety	80.2
Mechanism of action	70.3
Optimal combination with conventional therapy	61.7
Cost-effectiveness	44.6

The majority of them (89.2%) were interested in attending future courses on CAM. The main areas of CAM that they would like to know more about were side effects and safety (80.2%), mechanism of action (70.3%), and optimal combination with conventional therapy (61.7%). (Table 4)

The majority (83.3%) of PHC doctors agreed that they should regularly ask patients if they are regularly using CAM. When asked about regulation of CAM by law, 81.5% of PHC doctors agreed about that. Most of the participants (69.8%) agreed that CAM should be included in undergraduate medical education; the majority (74.8) also agreed that there is a need for physician supervision of CAM. (Table 5)

**Table 5 Beliefs of primary health care doctors in Bahrain about complementary and alternative medicine (CAM) therapies (n = 222)**

Items	Agree %	Neutral %	Disagree %
CAM should be regulated by law	81.5	17.1	1.4
CAM should be included in undergraduate medical education curriculum	69.8	21.6	8.6
There is a scientific basis for CAM	67.1	30.6	2.3
CAM practitioners should be fully qualified and licensed by law	86.5	12.2	1.4
There is a need for physician supervision of CAM	74.8	20.3	5.0
The result from CAM is mainly due placebo effect	22.1	38.7	39.2
Most CAM therapies are safe and have very few side effects	21.6	36.0	42.3
General practitioners should regularly ask patients if they are using CAM	83.3	15.3	1.4
CAM is a useful supplement to conventional medicine	57.2	37.8	5.0

The majority (86.5%) of PHC doctors agreed that CAM has a scientific basis. More than half of them (57.2%) agreed that CAM is a useful supplement to conventional medicine. On the other hand only (22.1%) agreed that the results from CAM are mainly due to placebo effect. The results showed that the PHC doctors were not sure about the safety and the side effects of CAM therapy, 21.6% agreed that CAM is safe while 36% were neutral and 42.3% disagree that CAM is safe. (Table 5)

Regarding the practice of PHC doctors toward CAM, more than half (59.5%) had used CAM with their patients, while only 23% of them had referred patients to a CAM practitioner. Most PHC doctors (79.7%) stated that they asked their patients about the use of CAM. (Table 6)

When asked about the difficulties facing PHC doctors with the use of CAM, they stated that the main reasons were lack of knowledge and training (92.8%) and lack of studies supporting CAM (69.4%). (Table 6 - opposite page)

When evaluating practice areas that are affected by level of level of knowledge about CAM among PHD doctors, we found that all aspects of practice were significantly higher among doctors with higher level of knowledge ( $P < 0.05$ ). (Table 7 - opposite page)

**Table 6: Practice of complementary and alternative medicine (CAM) by primary health care doctors in Bahrain (n = 222)**

Item	%
<i>During practice as primary health care</i>	
<i>Have you ever used CAM with your patients?</i>	
Yes	40.5
No	59.5
<i>Have you ever considered use of CAM with your patients?</i>	
Yes	55.9
No	44.1
<i>Have you ever referred patients to CAM practitioner?</i>	
Yes	23.0
No	77.0
<i>Have you asked patients about their use of CAM?</i>	
Yes	79.7
No	20.3
<i>Have you had a personal experience of CAM?</i>	
don't know	5.4
No	55.4
Yes	39.2
<i>Most difficulties facing you with the use of CAM</i>	
Lack of knowledge and training	92.8
Lack of studies supporting CAM	69.4
License by health authority	45.1
Cost	9.5

**Table 7: Association of level of Knowledge about complementary and alternative medicine (CAM) of primary health care doctors and their practices.**

Variables	What is your the level of knowledge about CAM in general?				
		Excellent/Good %	Poor %	Chi-square - corrected	2-tailed p-v
Have you ever used CAM with your patients?	Yes	61.1	38.9	7.3346	0.0076
	No	41.7	58.3		
Have you ever considered use of CAM with your patients?	Yes	60.5	39.5	12.4621	0.0004
	No	35.7	64.3		
Have you ever referred patients to CAM practitioner?	Yes	70.6	29.4	10.6564	0.0011
	No	43.3	56.7		
Have you asked patients about their use of CAM?	Yes	55.9	44.1	12.9985	0.0003
	No	24.4	75.6		
Have you had a personal experience of CAM?	Yes	58.6	41.4	4.1315	0.0420
	No	46.4	32.1		

## Discussion

CAM is considered one of the important elements in today's and future medical and health practice; the research in this field is increasing worldwide. [4, 5, 15, 16]

In this study the highest percentage of PHC doctors evaluated their level of knowledge to be poor (50.5%) which is slightly higher than Qatar (39.1%) but better than Kuwait (78.4%). [15, 16] This high proportion could be related to the fact that the majority of the participants were graduated more than 10 years from the medical schools when CAM was still not widely used. [6]

Of the different CAM therapies, PHC doctors reported more knowledge about diet and supplements, psychotherapy and counselling which is similar to a study conducted in Qatar, [15] but different than the studies conducted in UAE and Kuwait which showed that GPs were more aware about and supportive of herbal medicine, acupuncture and homeopathy. [16, 17]

The attitude of PHC doctors in this study was clearly positive toward CAM which is similar to previous studies in the Gulf region. [15,16,17]

The participants supported that the practise of CAM in Bahrain has to be regulated by law which matches the results of the previous studies in the Gulf and globally. [15, 16, 3]

Most PHC doctors had no previous training in CAM; however, 89.2% are interested in attending future courses in CAM which goes in parallel with the results from UAE, [15] while it is different than the Canadian and Australian studies which reported a higher level of training. [18,19]

In this study PHC doctors had limited use of CAM for their patients and low referral rate to CAM practitioners. These results are similar to a previous study conducted in Qatar [15] but different to the one conducted in UAE where 32% of GPs referred their patients to herbal medicine specialties. [17] On the other hand, 20% of GPs in Australia, practised CAM; 93% had referred their patients at least once and 82% a few times a year for CAM therapy [19]. This limited use and referral could be explained by the lack of specialized and licenced CAM centres in Bahrain and the lack of knowledge and training of physicians in CAM.

This study has a lot of similarities with previous studies conducted in the Gulf region, but also showed some variations. This indicates that despite the similar culture, beliefs and level of education, there are still some differences between the Gulf countries which indicates the need to study this issue more on a local and regional level.

The response rate was lower than desired in this study, but it was similar to the response seen in Qatar (70%). [15] This is considered a limitation and therefore the results should be interpreted with caution because those with

strong feelings towards CAM (for or against) may have been more likely to respond to the survey.

Another limitation is the fact that the study only included primary care physicians working in their Ministry of Health and did not include those working in the private sector. Moreover, it did not include doctors from other specialties. Attitudes and knowledge about CAM could be significantly different in physicians at different levels and specialties of health care. Thus, it would be interesting to compare attitudes and knowledge across different practice settings.

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