



COMPLEMENTARY AND ALTERNATIVE MEDICINE PRACTICE AND BARRIERS AMONG PRIMARY HEALTH CARE PHYSICIAN IN DAMMAM AND AL KHOBAR CITIES, SAUDI ARABIA

Community Medicine

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KEYWORDS

CHAPTER1: INTRODUCTION AND LITERATURE REVIEW 1.1 INTRODUCTION AND LITERATURE REVIEW

Complementary and alternative medicine (CAM) is defined by the National Center for Complementary and Alternative Medicine 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)

Therapies are categorized as complementary if they are combined with conventional medicine, such as acupuncture for chronic low back pain. In contrast, alternative therapies are defined as those that replace conventional medicine, such as treating cancer with a special diet rather than chemotherapy. (2)

CAM includes a wide range of practices: Counselling & psychotherapy, acupuncture, massage, energy healing, ruqyah, cauterization, reflexology, chiropractic, cupping, honey. And herbal medicine: ginger, garlic, coffee, murrh, Ginkgo biloba, St. John's wort, saw palmetto and others.

These therapies commonly used to treat back pain, joint pain or stiffness, depression and anxiety, and some patient used them to treat more serious diseases like cancer and cardiovascular diseases.

On a study done on Qatar measures, the prevalence of CAM used by PHC attendees shows highest for counseling and psychotherapy (69.0%), diet and supplements (68.1%), acupuncture (45.2%), herbal medicine (47.3%) and massage (42.5%). (3)

The world health organization (WHO) has reported that about two thirds and 50-80% of the population of developed and developing countries, respectively used CAM. (4) There was a high prevalence of CAM use among woman, adults of high education and in those who have one or more health problems. (5)

A study done in Saudi Arabia showed that 23.9% of primary health care patients reported CAM usage. It varied with sociodemographic factors (i.e. age, sex, race, income, education). (6) But CAM is not part of health care system in Saudi Arabia and it is not included in the undergraduate medical education curriculum. Consequently, PHC physicians may not have sufficient knowledge to advice safe usage of CAM. Therefore, there is a communication gap between the physicians and patients regarding CAM.

Furthermore, World Health Organization (WHO) encourages the integration of CAM into the conventional medical system to improve the quality of care in the health for all strategies. (7)

Some patients don't trust conventional medicine because it is chemical and have side effects, and consider CAM more natural and compatible with their beliefs and values. (8)

Even though there is high prevalence and increase public interest in CAM use in Saudi Arabia, yet most Saudi patients are not willing to share and discuss CAM information with their physicians. (6) On the other hand, physicians don't enquirers about CAM nor do they

consider it important to discuss. However, some of the therapies may have side-effects and drug interactions especially in a patient with polypharmacy.

So, knowledge about CAM therapies will enable healthcare professionals to recommend the best and appropriate evidence-based complementary and alternative medicine for their patients and initiate the discussion with them.

A study done in Riyadh region published in 2012 based on 1113 physician reported a positive attitude is documented toward CAM and the concept of integrating it in the health care system. This study revealed reluctant on the side of the physician to initiate discussion with patients regarding CAM. (9)

A study in Semmelweis University, Budapest published in 2015 based on 194 general practitioners aim to explore general practitioners' knowledge and attitude towards CAM, as well as ask their opinion on integration of alternative medicine into mainstream medicine. The study reported that general practitioners would like to know more about complementary and alternative medicine modalities used by their patients. They consider the education of medical professionals necessary and a special group is willing to undergo further education in the field. (10)

A study in Trinidad and Tobago in 2015 aimed to know the Knowledge, attitudes, and practices among health care providers regarding CAM. The study included 172 nurses, 77 doctors, 30 pharmacists, and 83 other health care providers of unnamed categories (mainly nursing assistants). The results reported that Knowledge about CAM is low among healthcare providers. The majority engaged in using CAM but reluctant to recommend it. (11)

A study published in Bahrain in 2015 aimed to know the Knowledge, attitudes and practices of primary health care physician towards CAM. Based on 222 primary health care physicians reported a poor knowledge about CAM and the physician would like to know more about it. (12)

Another study in Farwaniya health region, Kuwait published in 2013 aimed to know the Knowledge and Attitudes of GPs based on 88 general practitioners reported most general practitioners did not feel qualified to make use of CAM. (13)

A study published in 2011 in Rafsanjan city, Iran based on 80 general physicians aimed to know the Knowledge and attitude of Rafsanjan physicians about CAM. Study reported knowledge and attitude of general physicians about complementary and alternative medicine are low. For the promotion of their knowledge, continuous education is needed for proper attitude to be developed. (14)

A study in Doha, Qatar published in 2010 aim to know the Knowledge, attitudes, and practice of general practitioners towards CAM based on 119 physicians. The study found that although many physicians were interested in helping their patients to make use of CAM, most did not feel qualified to do so. It suggests that knowledge about CAM among

GPs in Qatar is not as widespread as the public demand seems to require. Clearly, physicians need evidence-based and readily available training and resources about CAM.(3)

A study in Ajman, United Arab Emirates published in 2013 aim to know utilization pattern and reasons for use among patients attending tertiary care center. The study included 135 patients and concluded that about one-third of patients used CAM and mostly without physician guide mostly because they think it has fewer side effects.(8)

1.2 Rationale:

Since the CAM usage in Saudi Arabia is high as stated by the National Center of CAM (6). The National Center of CAM (NCCAM) is promoting the practice of Evidence Based CAM and training practitioners to use it. This study will provide information about the level of PHC physician's practice of EB CAM and their barriers.

1.3 The aim of the study:

To evaluate the practice of primary health care physicians and their barriers towards complementary and alternative medicine in Dammam and AL Khobar cities, Saudi Arabia.

1.4 Objectives:

- To measure the prevalence of CAM practicing among primary health care physicians in Alkhobar and Dammam.
- To identify the barriers of CAM practicing among primary health care physicians.
- To determine factors associated with CAM practice (experience period, specialty degree, previous training).

2 CHAPTER 2: MATERIAL AND METHODS

2.1 Study design:

Cross-sectional study through an electronic self-administered validated questionnaire. The link to the questionnaire was sent to the target participants via WhatsApp.

2.2 Study population and setting:

The study was conducted among PHC physicians including family medicine residents (n=318) working in the MOH primary health care centers in Dammam and AlKhobar sectors, eastern province, KSA, 2018.

2.3 Inclusion and Exclusion criteria:

Inclusion Criteria: All primary care physicians provide primary health care services through primary health care centers in the target area. Including GPs, family medicine residents, specialists, and consultants.

Exclusion criteria: Dentist, Physician's working in administration and not providing health care.

2.4 Sampling technique and methods:

All targeted physicians in the study area (n=318) were included (total coverage). An electronic self-administered questionnaire was sent through WhatsApp.

2.5 Data collection methods:

Self-administered validated questionnaire was used. This questionnaire has been taken from two previously published studies after obtaining permission from the authors (6, 9) the questionnaire Included three sections: sociodemographic factors, practice and barriers to CAM.

2.6 Study variables:

Dependent variables:

- Primary care physicians practice of CAM.
- Barriers facing primary care physicians regarding CAM use.

Independent variable:

- Socio-demographic data :(age, sex, nationality)
- Work and experience related factors for primary care physicians like:
 - a. Experience period.
 - b. Job title (GP, residents or family physician)
 - c. Previous training in CAM.

2.7 Pilot study:

The pilot study was done on a minimum of 30 physicians to test the clarity of the questionnaire and provide an overview about any unexpected difficulties.

2.8 Data management and analysis:

The response rate calculated, and any questionnaire less than 50% filled have been removed. Data entered into a personal computer and analyzed using (SPSS) software version 23. All variables were coded before entry and checked before analysis.

Descriptive statistic was carried out. Categorical variable were presented in frequency and percentage. Continuous data were presented in mean and standard deviation.

CHI-square test was used to test the association between the categorical variables like gender, job title, training and practicing or barriers of CAM. Difference of age distribution between the PHC physicians who used and not used CAM for their patients was tested using Mann-Whitney U-test because the age was not normally distributed. Alpha level of 0.05 selected and p-value less than 0.05 considered statistically significant.

2.9 Limitation of the study:

The study focused on only Primary Health Care Physicians and not including secondary and tertiary hospital physicians. The study only covering MOH Primary Health Care centers in Eastern province and not including private and other sectors.

2.10 Ethical consideration:

The purpose of the study explained to the participants and informed consent obtained before involving them in the study.

All data kept confidential and anonymous.

IRB approval and administrative permission obtained from MOH, Eastern province.

2.11 Budget:

Self-budget.

3 CHAPTER 3: RESULTS

3.1 Physicians Socio-demographic characteristics

Of the 318 PHC physicians invited, 207 responded translated to the response rate of 65.09%.

Table 1: Physicians Socio-demographic characteristics

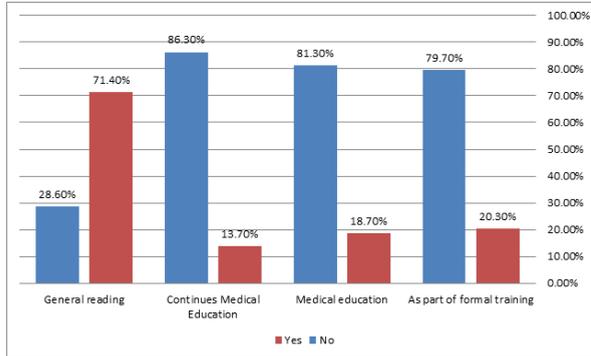
Characteristic	Description	N	%	
Nationality:	Saudi	195	94.2%	
	Non Saudi	12	5.8%	
Gender:	Male	65	31.4%	
	Female	142	68.6%	
Marital status	Single	39	18.8%	
	Married	163	78.7%	
	Divorced	5	2.4%	
Job title	GP	66	32.0%	
	FM Resident	111	53.9%	
	FM Specialist/	29	14%	
	Consultant			
Level of knowledge about CAM in general	Poor	127	62.3%	
	Good	73	35.8%	
	Excellent	4	2.0%	
Attended formal training in CAM	Yes	33	16.3%	
	NO	170	83.7%	
Characteristic	Mean	SD	Maximum	Minimum
Age in years	32	6	58	24
Years of experience	6	5	23	0

Table 1 shows that respondent' characteristics; the mean age was 32±6 years, majority of the respondents 195 (94.2%) were Saudi, one third (31.4%) were males and 142 (68.6%) were females and most of them were married 163 (78.7%). Approximately half of respondents (53.9%) were family residents and one third (32%) were GPs. (table1) Most of

the respondents 127(62.3%) stated that their knowledge about CAM therapy was poor, while 73(35.8%) described it as good and only 4 (2%) classified their knowledge about CAM as Excellent, of the 207 participants only 33(16.3%) had received training on CAM.

3.2 PHC physicians' source of information about CAM

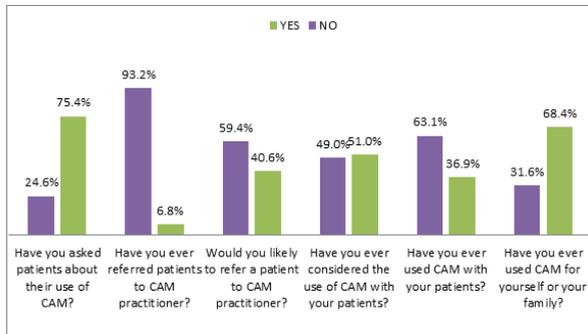
Graph1: PHC physicians' source of information about CAM



Most of the physicians get their information about CAM from general reading (71.4%), and (20.3%) get it as a part of formal training, and about (18.7%) receive it from Medical education. (Graph1)

3.3 PHC physicians' practice of CAM

Graph 2: PHC physicians' practice of CAM



PHC physicians' utilization of CAM

Almost more than two third of the physicians (68%) had used CAM for themselves or their families, but only (36.9%) had used it with their patient. (graph 2)

Referral of patients

Although (40.6%) of the physicians were somewhat likely to refer

3.6 The associations between physicians' characteristics and CAM practice.

Table (3): The associations between physicians' characteristics and practice (Use of CAM) (statistical test Chi-square)

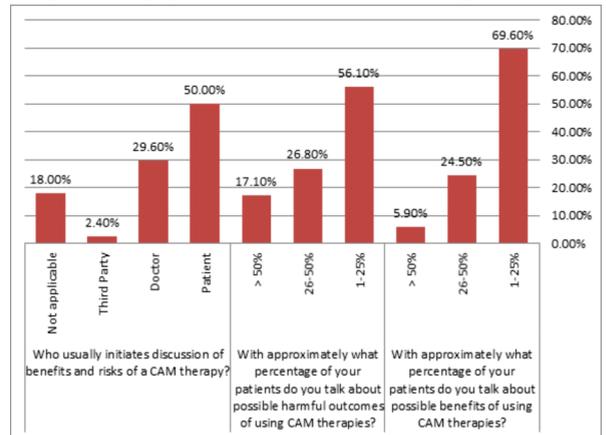
Characteristic	physicians who used CAM for themselves or their families		p value	physician who used CAM for their patient		p value	physician who consider using CAM for their		p value	
	N	%		N	%		N	%		
Gender:	Male	43	66.2%	0.613	21	32.8%	0.415	32	50.0%	0.852
	Female	98	69.5%		55	38.7%		73	51.4%	
Marital status	Single	30	76.9%	0.361	16	41.0%	0.823	22	56.4%	0.292
	Married	107	66.0%		58	35.8%		79	48.8%	
	Divorced	4	80.0%		2	40.0%		4	80.0%	
Job title	GP	39	60.0%	.220	24	36.9%	.189	32	49.2%	.451
	FM Resident	80	72.1%		37	33.3%		55	49.5%	
	FM Specialist/ FM Consultant	21	72.4%		15	51.7%		18	62.1%	
Level of knowledge about CAM in general	Poor	78	61.9%	0.008	31	24.4%	0.000	51	40.2%	0.000
	Good	60	82.2%		43	59.7%		51	70.8%	
	Excellent	2	50.0%		1	25.0%		2	50.0%	
Formal training in (CAM)	Yes	27	81.8%	0.060	21	63.6%	0.000	22	66.7%	0.042
	No	110	65.1%		52	30.8%		80	47.3%	

From (table 3) there is significant statistical association was noted between physicians level of knowledge and utilization of CAM for the physicians themselves and their families (p=0.008) and their patient (p=0.000). There is also statistically significant association between physicians formal training and utilization of CAM for the physicians themselves and their families (p=0.060) and their patient (p=0.000). No significant deference between female physicians and male physicians who used CAM for themselves or their families (p=0.613) and their patient (p=0.415).

patients to CAM practitioners, only 6.8% did refer patients to CAM practitioners. (Graph 2)

3.4 PHC physician's discussion of CAM with patient

Graph 3: PHC physician's discussion of CAM with patient



More than two thirds of the physicians (69.9%) talked with 1-25% of them patients about possible benefits of using CAM, while more than half (56.1%) of the physicians talked with 1-25% of the patient about the risk of CAM therapies.

Patients were reported to initiate discussion of benefits and risks of CAM therapies in half of the cases (50%), while doctors initiate it in around one third of the cases (29.6%). (graph3)

3.5 Physicians' responses to the barriers to use CAM

Table 2: Physicians' responses to the barriers to use CAM

Barriers to use CAM	Yes		No	
	N	%	N	%
lack of knowledge and training	197	95.6%	9	4.4%
lack of evidence-based studies supporting CAM	192	93.2%	14	6.8%
Not license by health authority	187	90.8%	19	9.2%
Cost	53	26.4%	148	73.6%

When asked about the barriers facing PHC doctors with the use of CAM, PHC physicians stated that the main reasons were lack of knowledge and training (95%), lack of studies supporting CAM (93.2%) and lack of licensed centers by health authority (90%), while cost was not a strong barrier with only (26.4%). (Table 2)

Table (4): The associations between physicians' characteristics and practice of CAM (Referral to CAM practitioners) (statistical test Chi-square)

Characteristic		physicians who likely will refer patients to CAM		p value	physicians who refer patients to CAM practitioner		p value	physicians who ask patients about their CAM use		p value
Nationality:	Saudi	75	38.5%	0.012	12	6.2%	0.162	146	74.9%	0.509
	Non Saudi	9	75.0%		2	16.7%		10	83.3%	
Gender:	Male	25	38.5%	0.675	4	6.2%	0.804	50	76.9%	0.724
	Female	59	41.5%		10	7.1%		106	74.6%	
Job title	GP	29	43.9%	0.791	4	6.2%	0.271	44	66.7%	0.051
	FM Resident	43	38.7%		6	5.4%		85	76.6%	
	FM Specialist/ FM Consultant	12	41.4%		4	13.8%		26	89.7%	
Level of knowledge about CAM in general	Poor	45	35.4%	0.146	4	3.2%	0.030	89	70.1%	0.063
	Good	36	49.3%		8	11.0%		62	84.9%	
	Excellent	2	50.0%		1	25.0%		3	75.0%	
Formal training in (CAM)	Yes	17	51.5%	0.155	6	18.2%	0.005	25	75.8%	0.899
	No	65	38.2%		8	4.7%		127	74.7%	
PHC physician's Source of information about CAM										
As part of formal training	No	62	42.8%	0.807	8	5.5%	0.247	121	83.4%	0.012
	Yes	15	40.5%		4	10.8%		24	64.9%	
Continues Medical Education	No	60	38.2%	0.005	5	3.2%	0.000	122	77.7%	0.099
	Yes	17	68.0%		7	28.0%		23	92.0%	
General reading	No	25	48.1%	0.319	8	15.4%	0.003	39	75.0%	0.322
	Yes	52	40.0%		4	3.1%		106	81.5%	

There is significant association between referral of patient to CAM practitioner and level of knowledge (p=0.030) and formal training in CAM (p=0.005), No statistical association was established between referral of patients to CAM practitioner and nationality, gender and job title.

Table (5): The associations between physicians' characteristics and practice of CAM (CAM benefits discussion) (statistical test Chi-square)

		With approximately what percentage of your patients do you talk about possible benefits of using CAM therapies?						p value
		1-25%	26-50%	> 50%				
Gender:	Male	45	71.4%	17	27.0%	1	1.6%	0.199
	Female	97	69.3%	32	22.9%	11	7.9%	
Nationality:	Saudi	135	70.7%	47	24.6%	9	4.7%	0.015
	Non Saudi	7	58.3%	2	16.7%	3	25.0%	
Job Title	GP	46	70.8%	15	23.1%	4	6.2%	0.456
	FM Residents	78	72.2%	23	21.3%	7	6.5%	
	FM Specialist/ Consultant	17	58.6%	11	37.9%	1	3.4%	
Level of knowledge about CAM in general	Poor	94	76.4%	27	22.0%	2	1.6%	0.006
	Good	43	58.9%	21	28.8%	9	12.3%	
	Excellent	2	50.0%	1	25.0%	1	25.0%	
Formal training in (CAM)	Yes	20	60.6%	7	21.2%	6	18.2%	0.002
	No	121	72.9%	40	24.1%	5	3.0%	
PHC physician's Source of information about CAM								
Medical education	No	103	70.5%	34	23.3%	9	6.2%	0.530
	Yes	20	60.6%	10	30.3%	3	9.1%	
Continues Medical Education	No	113	73.4%	34	22.1%	7	4.5%	0.001
	Yes	10	40.0%	10	40.0%	5	20.0%	
General reading	No	33	64.7%	14	27.5%	4	7.8%	0.762
	Yes	90	70.3%	30	23.4%	8	6.3%	

Table 5 shows that nationality, level of knowledge and attending formal training in CAM were having statistically significant association with talking to patient about CAM's benefits (p=0.015,0.006 and 0.002 respectively). (Table 5)

Table (6): The associations between physicians' characteristics and practice of CAM (CAM harmful outcomes discussion) (statistical test Chi-square)

		With approximately what percentage of your patients do you talk about possible benefits of using CAM therapies?						p value
		1-25%	26-50%	> 50%				
Gender:	Male	36	56.3%	16	25.0%	12	18.8%	0.642
	Female	79	56.0%	40	28.4%	22	15.6%	
Job Title	GP	34	52.3%	21	32.3%	10	15.4%	0.436
	FM Residents	67	60.9%	26	23.6%	17	15.5%	
	FM Specialist/ Consultant	13	44.8%	9	31.0%	7	24.1%	
Level of knowledge about CAM in general	Poor	81	64.8%	26	20.8%	18	14.4%	0.000
	Good	30	41.1%	28	38.4%	15	20.5%	
	Excellent	1	25.0%	2	50.0%	1	25.0%	
PHC physician's Source of information about CAM								

Medical education	No	82	55.4%	39	26.4%	27	18.3%	0.587
	Yes	15	45.5%	12	36.4%	6	18.2%	
Continues Medical Education	No	87	55.8%	39	25.0%	30	19.2%	0.121
	Yes	10	40.0%	12	48.0%	3	12.0%	
General reading	No	31	60.8%	13	25.5%	7	13.8%	0.470

Table 6 shows a statistically significant association between level of knowledge and taking to patients about CAM's harmful outcome (p=0.000).

3.7 The associations between physicians' characteristics and barriers to use CAM

Table (7): The associations between physicians' characteristics and barriers to use CAM (lack of knowledge and evidence) (statistical test Chi-square)

Characteristic		Lack of knowledge and training about CAM		p value	lack of evidence based studies supporting CAM		p value
Gender:	Male	60	93.8%	0.375	59	90.8%	0.346
	Female	137	96.5%		133	94.3%	
Nationality:	Saudi	186	95.9%	0.489	181	93.3%	0.827
	Non Saudi	11	91.7%		11	91.7%	
Job Title	GP	60	92.3%	0.286	66	100.0%	0.006
	FM Residents	108	97.3%		101	91.8%	
	FM Specialist/ Consultant	28	96.6%		24	82.8%	
Level of knowledge about CAM in general	Poor	124	97.6%	0.000	118	93.7%	0.003
	Good	69	94.5%		69	94.5%	
	Excellent	2	50.0%		2	50.0%	
Formal training in (CAM)	Yes	31	93.9%	0.625	30	90.9%	0.593
	No	162	95.9%		158	93.5%	
PHC physician's Source of information about CAM							
Medical education	No	141	95.9%	0.252	138	93.2%	0.418
	Yes	31	91.2%		32	97.0%	
Continues Medical Education	No	149	95.5%	0.453	148	94.9%	0.182
	Yes	23	92.0%		22	88.0%	
General reading	No	49	94.2%	0.754	46	88.5%	0.051
	Yes	123	95.3%		124	96.1%	

Table 7 shows that there is statistically significant associations between level of knowledge about CAM and lack of knowledge and training about CAM as a barrier (p=0.000). And there is a statistically significant association between job title and level of knowledge about CAM with lack of evidence-based studies supporting CAM as a barrier (p=0.006, p=0.003 respectively).

There were no statistically significant associations between gender, nationality, job title and formal training in CAM with lack of knowledge and training about CAM as barriers.

Table (8): The associations between physicians' characteristics and barriers to use CAM (CAM license and cost) (statistical test Chi-square)

		CAM not license by health authority		p value	cost barriers		p value
Gender:	Male	57	89.1%	0.568	22	34.9%	0.063
	Female	130	91.5%		31	22.5%	
Nationality:	Saudi	177	91.2%	0.358	49	25.9%	0.572
	Non-Saudi	10	83.3%		4	33.3%	
Job Title	GP	61	92.4%	0.627	21	33.3%	0.233
	FM Residents	100	90.9%		27	25.0%	
	FM Specialist/ Consultant	25	86.2%		5	17.2%	
Level of knowledge about CAM in general	Poor	117	92.9%	0.013	32	26.2%	0.492
	Good	65	89.0%		19	26.4%	
	Excellent	2	50.0%		0	0.0%	
Formal training in (CAM)	Yes	30	90.9%	0.946	8	24.2%	0.706
	No	153	90.5%		45	27.4%	
PHC physician's Source of information about CAM							
As part of formal training	No	129	89.0%	0.037	33	23.2%	0.270
	Yes	36	100.0%		11	32.4%	
Medical education	No	138	93.9%	0.007	36	25.2%	0.911
	Yes	27	79.4%		8	24.2%	
Continues Medical Education	No	143	91.7%	0.549	37	24.3%	0.612
	Yes	22	88.0%		7	29.2%	
General reading	No	48	92.3%	0.730	16	32.7%	0.145
	Yes	117	90.7%		28	22.0%	

Table 8 shows statistically significant association between levels of knowledge about CAM in general with the barrier lack of licensed centers by health authority (p=0.013). And statistically significant association between physician source of knowledge from formal

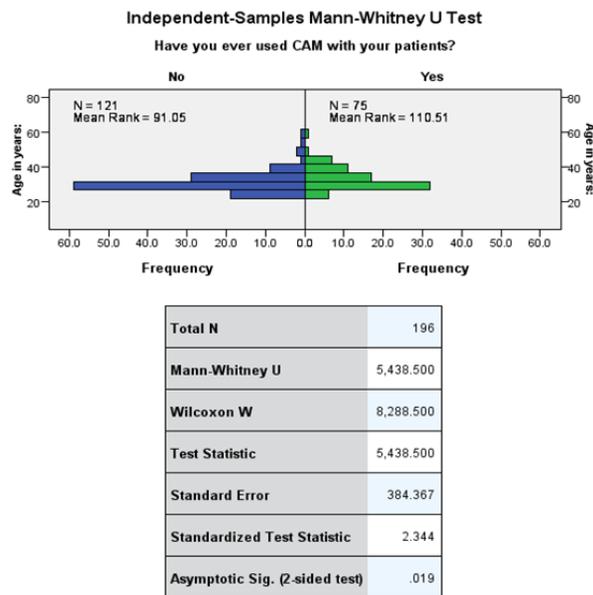
training and medical education with the barrier lake of licensed centers by health authority (p= 0.037, 0.007 respectively).

No statistically significant association between gender, nationality, job

title and formal training about CAM with the barriers of lack of license centers by health authority and cost.

3.8 The difference of age distribution between the physicians who use and not use CAM for their patients

Figure (1) Difference of age distribution between the physicians who use and not use CAM for their patients.



The figure demonstrates that older PHC physicians were more likely to use CAM with their patient

4 CHAPTER 4: DISCUSSION

The response rate was (65.09%), it was similar to the response seen in Qatar (70%)⁽³⁾ and lower than response seen in Riyadh (96.2%)⁽⁶⁾. Maybe because the physicians were overcrowded with other research questionnaire, some of them were uncooperative, or newly joined other specialty programs, or they were offline.

Although more than two thirds of the studied physicians (68.4%) had used CAM for themselves or their families, only one-third of the physicians (36.9%) had used CAM with their patients. These results are similar to a previous study conducted in Qatar and Bahrain^(5, 12) maybe due to similar culture, beliefs and religion.

It seems clear that CAM will be a part of healthcare for much of the population in the future. Fortunately, the research base in this field has been growing rapidly (Lewith et al., 2006; Leweth, 2005).

There was a discrepancy noted between the physicians who likely to refer patients to CAM practitioners (40.6%) compared to only (6.8%) actual referral rate. ., Higher referral rates were reported in Riyadh (14.2%), Qatar (24.8%) and Bahrain (23%)^(6,3,12) This may be attributed to the absence of specific CAM centers in Khobar and Dammam and the lack of knowledge and training of physicians in CAM.

Around two thirds of the physicians in our study (62.3%) evaluate their knowledge about CAM as poor. This is not surprising given that many of the respondents went through medical training at the time where CAM was not widely discussed. Slightly worse results were found in a study conducted in Kuwait where (78.4%) of the GPs in their study evaluate their knowledge about CAM as poor.⁽¹³⁾

In our study (83.7%) of the physicians did not attend any lectures or workshops or received any formal training on the use of CAM therapy. This was similar to previous studies conducted in Qatar (93.1%)⁽⁵⁾ and Riyadh(91.8%)⁽⁶⁾. This is maybe due to lack of CAM certified and licensed lectures and workshops and CAM is not included in the medical school's curriculum.

Our study showed that there is no significant association between demographic factors such as nationality, marital status, and job title with the utilization of CAM. The study showed a statistically

significant relationship between GPs' previous training and their practice or referral pattern of CAM, this is similar to a study done in Qatar.⁽³⁾

In half of the cases patients initiate the dissection with their physicians about the potential harm and benefits about CAM. Only (29.6%) of PHC physicians initiate a discussion with their patients. This communication barrier needs to be addressed in-order to have CAM integrated into treatment and self-care routines.

Most of PHC physicians reluctant or hesitated to initiate a discussion about CAM with their patients. This hesitancy could be explained by the barriers identified by the participants like, lack of knowledge and training (95.6%), lack of evidence-based studies supporting CAM (93.2%), lack of centers licensed by health authority (90.8%). Only (26.4%) of the PHC physicians stated that cost was a barrier. There is no price regulation in the places that provide CAM also it is paid by the patient and not covered by insurance.

This study showed that PHC physicians whose source of information were from continuous medical education and general reading are more likely to refer patient to CAM practitioner. Physicians whose source of information from part of formal training were more likely to ask patients about their CAM use.

This study showed that PHC physicians whose source of information was from continuous medical education were more likely to talk with their patients about possible benefits of using CAM.

Also our study shows that PHC physicians whose source of information about CAM from part of formal training and medical education stated that lack of centers licensed by health authority as barrier to use CAM.

limitations of our study are the fact that this study only included primary care physicians working in the Ministry of Health and did not include those working in the private sector. Moreover, it did not include doctors from other specialties. Practice and barriers about CAM could be significantly different in physicians at different levels and specialties of health care. Thus, it would be interesting to compare CAM practice and barriers across different practice settings.

In conclusion, many physicians are using CAM with themselves and families but few of them are using it with their patients. Although many physicians are thinking of referring their patients to CAM practitioners, very few of them are actually referring patients to those practitioners. we believe that the results of this survey highlight the challenges faced by physicians, who are increasingly dealing with issues regarding CAM. Physicians need resources that are evidence-based and readily available.

RECOMMENDATIONS:

There is a need to develop educational programs to fill the knowledge gap and to provide physicians with evidence-based CAM, also it is important to Integrate evidence-based CAM in pregraduate curriculum. And organize courses and lectures by the National Center for Complementary and Alternative Medicine with CME hours. MOH can list the updated licensed CAM centers in each region and distribute it to the health care centers, and Activate direct communication (call center) with the National Center for Complementary and Alternative Medicine to answer physicians enquires.

Abbreviations

- CAM: complementary and alternative medicine.
- PHC: primary health care center.
- GP: general practitioner.
- WHO: world health organization.
- NCCAM: National Center of Complementary and Alternative Medicine.
- MOH: Ministry of Health.
- EB CAM: Evidenced Based Complementary and Alternative Medicine.

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