

The use of and out-of-pocket spending on complementary and alternative medicine in Qassim province, Saudi Arabia

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Ann Saudi Med 2013; 33(3): 282-289

DOI: 10.5144/0256-4947.2013.282

BACKGROUND AND OBJECTIVES: The current picture of the Saudis' use of complementary and alternative medicine (CAM) has not yet been developed. The aim of this study was to assess the feasibility of using the international questionnaire to measure use of complementary and alternative medicine (I-CAM-Q) in Saudi Arabia to evaluate the use of and out-of-pocket spending on CAM.

DESIGN AND SETTINGS: It was a cross-sectional study, conducted in 2011, in primary health care centers in Qassim.

METHODS: In a multistage sampling technique, 12 primary health care centers were selected randomly in the Al-Qassim province in Saudi Arabia. From each center, 100 attendants were interviewed for a total of 1160 completed questionnaires.

RESULTS: A total of 74% of subjects had visited CAM providers in 12 months before the survey. This percentage decreased to 47.6% when spiritual healers were excluded. The specific CAM providers who were visited were spiritual healers (26.7%), herbalists (23.2%), providers of honeybee products (14.9%), and hijama (wet cupping; 13%). Chronic illnesses were the main reason for the visits. A total of 50% of subjects were satisfied with their visit. Physicians were the providers of CAM for 11.3% of the participants. More than 75% of the subjects used herbs in the previous 12 months for medical and health reasons, while only 25% used vitamins or minerals. Self-help was used in 26% of the participants. Relaxation (10.3%) was the most common self-CAM practice followed by meditation (6.7%). The subjects spent 350 000 (US\$) on CAM visits and 300 000 (US\$) purchasing CAM products.

CONCLUSIONS: I-CAM-Q can be used in different populations and cultures in the East including Saudi Arabia after customization to overcome its limitations, as the questionnaire was developed in Western societies.

The field of complementary and alternative medicine (CAM) is very broad and constantly changing. Accordingly, defining CAM is difficult. Historically, CAM has been defined as “all practices not regularly taught in biomedical schools,” which does not apply to countries already including CAM in the medical school curriculum.^{1,2} According to the National Center for Complementary and Alternative Medicine in the United States, CAM is defined as a group of diverse medical and health care interventions, practices, products, or disciplines that are not presently considered part of conventional medicine.^{3,4} Complementary interventions are used

together with conventional treatments, whereas alternative interventions are used instead of conventional medicine.

The term “CAM” often refers to a broad set of health care practices that are not part of a country's own tradition, while the term “traditional medicine” (TM) is a comprehensive term used to refer both to TM systems such as traditional Chinese medicine, Indian Ayurveda, and Arabic Unani medicine and to various forms of indigenous medicine.⁵

Studies performed in different parts of the world have established that the use of CAM is very common and varies among populations. WHO has reported

that approximately two thirds and 50% to 80% of the population of developed and developing countries, respectively, have used alternative and complementary medicine.⁶

The results from the 2002 National Health Information Survey (NHIS) in the USA showed that 36% of adults use CAM, and if prayer is included, this figure jumps to 62%.⁷ In 2007, almost 4 out of 10 adults had used CAM therapy in the past 12 months.⁸ The use of CAM is common among patients with certain illnesses, especially chronic diseases.⁹⁻¹¹

In Saudi Arabia, the current, detailed, and comprehensive picture of the Saudis' use of CAM has not yet been developed, although published data show that CAM is widely used. In 2000, a study in the capital city Riyadh showed that 46% of the population used CAM, and 19% of them used CAM in the previous year.¹² In 2008, a household survey study conducted in the Riyadh region found that 73% of the population had previously used CAM, and 67% used it in the previous 12 months. In addition, 42% had consulted a CAM provider, and 72% kept at least 1 traditional therapy item at home.¹³ Prayers, herbs, wet cupping, and honey bee products are the most common CAM modalities used by the Saudi population. The methods belong to the indigenous traditional practices common in the Arab and Islamic countries. The majority of those practices are grouped under the term "Prophetic medicine," where clerics, rather than physicians, advocate the traditional medical practices in the days of the Prophet of Islam.^{12,13}

The use of CAM has been extensively studied globally among different populations. However, it is difficult to compare findings across studies and across countries because of differences in the way the use of CAM was measured, including differences in study design and methodological limitations.¹⁴ In 2006, a workshop was convened by the National Research Center in Complementary and Alternative Medicine (NAFKAM), University of Tromsø, Norway, to develop a common questionnaire that could be used across populations and countries.¹⁵ The questionnaire is called the "international questionnaire to measure use of complementary and alternative medicine (I-CAM-Q)." The question "Can we use this questionnaire internationally across developed and developing countries with different cultures?" remains unanswered.

The aim of this study was to measure the use of CAM and out-of-pocket spending on CAM in the Qassim region, Saudi Arabia, by using I-CAM-Q.

METHODS

Overall design

Face-to-face interview survey targeting primary health care (PHC) attendants aged 18 years and older from both genders and any nationality. A total of 1167 participants were included in the study using a multistage sampling technique. The study was conducted from the beginning of May to the end of June 2011, targeting attendants of PHC centers in the Qassim region aged 18 years and older from both genders and any nationality.

Sample

A multistage sampling technique was used. Twelve PHC centers were selected randomly from 140 PHC centers in the Qassim region. From each center, 100 attendants were recruited; 1167 agreed to participate. Of those, 1160 participants were able to complete the questionnaire.

Questionnaire

We used a modified version of the I-CAM-Q developed originally by the National Research Center in Complementary and Alternative Medicine (NAFKAM) of the University of Tromsø, Norway.¹⁵ After receiving the permission from the original authors, the questionnaire passed through the following steps: (a) Translation (English-Arabic) and back translation. (b) Modification: questions were added to calculate out-of-pocket spending on the use of CAM therapy and CAM products. Questions regarding CAM products such as bracelets, books, or other materials were also added. Questions were added to collect demographic information, as the original questionnaire did not include demographic questions. (c) Testing the questionnaire through workshops (national and international) and in the field on a small number of participants.

RESULTS

Out of the 1200 targeted subjects, 1167 agreed to participate, and 1160 completed the questionnaire. The mean age was 40.69 years (SD 13.9). The ages ranged from 18 to 90 years, and 58% of the subjects were males. Saudis represented 93.6% of the participants. Regarding education, 26.4% of the participants were illiterate or could only read and write, 39.5% had intermediate and secondary education, and 32.2% were educated at the university level and above. Other demographic characteristics are shown in **Table 1**.

The overall use of CAM through CAM providers (one or more visits) in the last 12 months was 74.3%

(862/1160; 95% CI, 71.7-76.8) including prayer or spiritual healings. When we excluded prayer, the proportion decreased to 47.8% (554/1160; 95% CI, 44.9-50.7). This compared to 83.4% (967/1160) of the subjects who visited physicians in the same period. The proportions are not mutually exclusive, as participants can visit both physicians and CAM providers.

Spiritual healers (26.7%), herbalists (23.2%), providers of honeybee products (14.9%), and hijama (cupping) therapists (13%) were the providers most commonly visited in the last 12 months (Table 2).

The number of visits to CAM providers in the last 3 months ranged from 1 to 6. Spiritual healers (8.6 [20.6] visits), therapists with camel milk and urine (7.6 [13.6] visits), honeybee-product therapists (6 [12.1] visits), and herbalists (4.9 [11.4] visits) were the most frequently visited practices in the last 3 months; Table 2.

The main reason for visiting a CAM provider was chronic illness. For chronic illness, the practice-specific percentages ranged from 76% (19/25) for acupuncture to 54% (94/172) for honeybee products.

More than 50% were satisfied with the outcome of the last visit. For the CAM practices, the percentage of participants who were "very satisfied" ranged from 51.8% for cautery to 72.7% for honeybee products. Those who were "not at all satisfied" ranged from 2 to 8% for all listed practices in Table 2.

Table 3 shows the common CAM provider visits (spiritual healer, herbalist, honeybee-product therapists, hijama (cupping) provider, and cautery provider) by sociodemographic characteristics. The middle-age group (30-<50 years) visited herbalists ($P=.019$), hijama (cupping; $P=.0001$), and cautery providers ($P=.018$) significantly more frequently than other age groups. Age did not affect visits to spiritual healers. Females were significantly more likely to visit CAM providers ($P=.001$) except for hijama (cupping). Highly educated (university and above) persons visited honeybee-product therapists ($P=.0001$) and hijama (cupping; $P=.0001$) significantly more frequently than others. Illiterate participants visited spiritual healers and cautery providers significantly more frequently than others. Regarding occupation, the jobless participants, housewives, and unskilled workers were significantly more likely to visit spiritual healers ($P=.01$). Except for hijama (cupping), Saudi nationals were significantly more likely to visit spiritual healers, herbalists, honey-product therapists and cautery providers. Both Saudis and non-Saudis visited hijama (cupping) providers equally.

Physicians providing CAM

Of the 1160 participants, 131 (11.3%) visited physicians providing CAM therapy in the previous 12 months before the survey. Of the 1160 participants, the CAM therapies provided by physicians were herbal medicine (5.7%), spiritual healing (3.8%), manipulation (1.4%), and acupuncture (0.4%).

Self-help practices

Self-help was used by 26% (302/1160) of the participants. Relaxation (10.3%) was the most common self-CAM practice followed by meditation (6.7%).

Table 1. Sample characteristics.

| Characteristics | Frequency (1160) | Percent (100.0%) | |
|-----------------|-------------------------------------|------------------|------|
| Age (y) | <30 | 267 | 23.1 |
| | 30-<40 | 294 | 25.4 |
| | 40-<50 | 298 | 25.8 |
| | 50-<60 | 185 | 16.0 |
| | 60+ | 113 | 9.8 |
| | Missing system | 3 | 0.3 |
| Sex | Male | 679 | 58.5 |
| | Female | 479 | 41.3 |
| | Missing system | 2 | .2 |
| Education | Illiterate or read and write | 306 | 26.4 |
| | Intermediate and secondary | 458 | 39.5 |
| | University and above | 374 | 32.2 |
| | Missing system | 22 | 1.9 |
| Occupation | Professional | 20 | 1.7 |
| | Intermediate | 183 | 15.8 |
| | Skilled nonmanual | 113 | 9.7 |
| | Partly skilled | 210 | 18.1 |
| | Unskilled | 45 | 3.9 |
| | Armed forces | 35 | 3.0 |
| | Inadequately described | 40 | 3.4 |
| | Students, no occupation, housewives | 514 | 44.3 |
| Nationality | Saudi | 1086 | 93.6 |
| | Non-Saudi | 72 | 6.2 |
| | Missing system | 2 | .2 |
| Total | 1160 | 100.0 | |

Table 2. Visits to CAM providers.

| CAM practices | Did you visit CAM provider in the last 12 mo? | | | | Number of visits in the last 3 mo X (SD) | Reason (Last visit) | | | Satisfaction (last visit) | | |
|-------------------|---|------|--------|------|---|---------------------|-----------------|-------------|---------------------------|-------------|------------|
| | Yes | | 95% CI | | | Acute illness | Chronic illness | Well-being | Very | Somewhat | Not at all |
| | N | % | | | | | | | | | |
| Spiritual healer | 308/1155 | 26.7 | 24.2 | 29.4 | 8.67 (20.63) | 67 27.0% | 159 56.4% | 47 16.6% | 188 65.96% | 91 31.9% | 6 2.11% |
| Herbalist | 269/1160 | 23.2 | 20.8 | 25.8 | 4.91 (11.41) | 83 33.9% | 152 62.0% | 10 4.1% | 158 64.4% | 69 27.9% | 20 8.1% |
| Honeybee products | 172/1160 | 14.9 | 12.9 | 17.1 | 6.01 (12.12) | 17 10.2% | 94 56.3% | 56 33.5% | 125 77.6% | 30 18.6% | 6 3.73% |
| Hijama | 151/1160 | 13.0 | 11.2 | 15.1 | 1.66 (0.92) | 20 14.3% | 109 77.9% | 11 7.9% | 83 60.2% | 46 33.3% | 9 6.52% |
| Cauterization | 109/1160 | 9.4 | 7.8 | 11.3 | 1.02 (0.74) | 19 28% | 48 70.6% | 1 1.5% | 44 66.7% | 18 27.3% | 4 6.06% |
| Chiropractic | 48/1159 | 4.1 | 3.1 | 5.5 | 3.21 (2.61) | 10 22.7% | 27 61.4% | 7 15.9% | 28 62.2% | 15 33.3% | 2 4.4% |
| Acupuncture | 25/1158 | 2.2 | 1.8 | 3.3 | 2.44 (1.34) | 3 12% | 19 76.0% | 3 12% | 12 50% | 12 50% | 0 0% |
| Homeopath | 1/1157 | 0.1 | 0.01 | 0.6 | 1 | 0 0% | 1 100% | 0 0% | 1 100% | 0 0% | 0 0% |

CAM: Complementary and alternative medicine.

More than 75% (95% CI, 72.4-77.5) of the subjects used herbs in the previous 12 months for medical and health reasons. Al Murrah (Commiphora myrrha) was the most common (33.3%) followed by Yanson (Anise, Pimpinella anisum) (15.4%) and Helba (Trigonella foenum-graecum) (12.8%).

Almost 1 quarter of our sample used vitamins and or minerals in the 12 months before the study. Most of them used multivitamins (13.4%) followed by iron (5.8%), folic acid (4.2%), and vitamin B complex (3.6%).

Out-of-pocket spending on CAM visits

Table 4 shows the average cost of the last visit and the average cost for the last 3 months for each CAM provider. The average cost per visit (last visit) ranged from 186 Saudi Riyals (SAR) (50 US\$) for the herbalist to 472 SR (125 US\$) for the acupuncturist. Regarding the traditional CAM practices (excluding acupuncture and chiropractic services), the cost per visit ranged from 186 SAR (50 US\$) for the herbalist to 297 SAR (80 US\$) for the hijama therapist. Regarding the average cost per practice in the last 3 months, the cost of therapy with honey bee products was the highest at 704 SAR (188 US\$).

Total out-of-pocket spending on CAM visits:

The total cost (out-of-pocket spending) on CAM visits in the last 3 months was 327 970 SAR. From this

figure we can estimate that the out-of-pocket spending in the last year for our sample of 1160 individuals was (327 970×4)=1 311 880 SAR (349 834 US\$; 1 US\$=3.75 SAR). This did not include spending on self-CAM therapies or purchasing CAM products.

Out-of-pocket spending on herbs, vitamins, supplements, and other CAM products

Out-of-pocket spending for purchasing herbs, vitamins, supplements, and other CAM products in the previous 3 months was as follows: honey (147 399 SAR), herbs (90 677SR), vitamins/minerals (15 855 SAR), other supplements (23 674SR), and other products (3320 SAR).

The total out-of-pocket spending on purchasing CAM products was 280 925 SAR in the previous 3 months. In the previous year, the participants spent an estimated 1 123 700 SAR (~300 000 US\$) purchasing CAM supplements and products.

Total out-of-pocket spending on CAM

Therefore, the total out-of-pocket spending on CAM was 2 435 580 SAR (~650 000 US\$) per year for our study participants, including 350 000 US\$ on CAM visits and 300 000 US\$ purchasing CAM products.

DISCUSSION

Published studies have shown that CAM has been in-

Table 3. Demographic characteristics and CAM visits.

| Characteristics | Spiritual healing (308) (26.7%) | Herbal (269) (23.2%) | Honeybee products (172) (14.9%) | Hijama (cupping) (151) (13.0%) | Cauterization (109) (9.4%) | |
|--------------------|---|----------------------|---------------------------------|--------------------------------|----------------------------|-------------------|
| Age (y) | <30 (267) | 61 (22.85) | 52 (19.48) | 15 (5.62) | 14 (5.24) | 8 (3.00) |
| | 30-<40 (294) | 93 (31.63) | 77 (26.19) | 40 (13.61) | 26 (8.84) | 11 (3.74) |
| | 40-<50 (298) | 80 (26.85) | 84 (28.19) | 33 (11.07) | 46 (15.44) | 24 (8.05) |
| | 50-<60 (185) | 49 (26.49) | 38 (20.54) | 12 (6.49) | 23 (12.43) | 16 (8.85) |
| | 60+ (113) | 24 (21.24) | 18 (15.93) | 4 (3.54) | 17 (15.04) | 6 (5.31) |
| | <i>P</i> | .107 | .019 ^a | .001 ^a | .001 ^a | .018 ^a |
| Sex | Male (679) | 131 (19.29) | 103 (15.17) | 80 (11.78) | 99 (14.58) | 51 (7.51) |
| | Female (479) | 176 (36.74) | 165 (34.45) | 91 (19.00) | 52 (10.86) | 58 (12.11) |
| | <i>P</i> | .001 ^a | .001 ^a | .001 ^a | .064 | .008 ^a |
| Education | Illiterate or read and write (306) | 102 (33.33) | 75 (24.51) | 25 (8.17) | 31 (10.13) | 40 (13.07) |
| | Intermediate and secondary (458) | 118 (25.76) | 106 (23.14) | 58 (12.66) | 48 (10.48) | 47 (10.26) |
| | University and above (374) | 84 (22.46) | 85 (22.73) | 86 (22.99) | 71 (18.98) | 17 (4.55) |
| | <i>P</i> | .005 ^a | .852 | .001 ^a | .001 ^a | .001 ^a |
| Occupation | Professional (20) | 3 (15.0) | 3 (15.0) | 4 (20.0) | 4 (20.0) | 0 (0.0) |
| | Intermediate (183) | 44 (24.04) | 52 (28.42) | 67 (36.61) | 41 (22.40) | 28 (15.30) |
| | Skilled nonmanual (113) | 20 (17.70) | 12 (10.62) | 16 (14.16) | 15 (13.27) | 14 (12.39) |
| | Partly skilled (210) | 50 (23.81) | 40 (19.05) | 58 (27.62) | 37 (17.62) | 12 (5.71) |
| | Unskilled (45) | 12 (26.67) | 7 (15.56) | 7 (15.56) | 1 (2.22) | 6 (13.33) |
| | Armed forces (35) | 8 (22.86) | 11 (31.43) | 8 (22.86) | 12 (34.29) | 7 (20.0) |
| | Inadequately described (40) | 6 (15.0) | 7 (17.5) | 5 (12.5) | 8 (20.0) | 6 (15.0) |
| | Students, no occupation, housewives (514) | 165 (32.10) | 137 (26.65) | 74 (14.4) | 57 (11.09) | 80 (15.56) |
| | <i>P</i> | .01 ^a | .002 ^a | .001 ^a | .001 | .011 ^a |
| Nationality | Saudi (1086) | 297 (27.35) | 264 (24.31) | 168 (15.47) | 144 (13.26) | 107 (9.85) |
| | Non-Saudi (72) | 11 (15.28) | 5 (6.94) | 3 (4.17) | 7 (9.72) | 2 (2.78) |
| | <i>P</i> | .024 ^a | .001 ^a | .008 ^a | .388 | .046 ^a |

^aThere is a statistical significant difference.

CAM: Complementary and alternative medicine.

Table 4. Costs of visits to CAM providers.

| | Frequency of use | | Average cost (SR) last visit | | | Average cost (SR) last 3 mo | | |
|--------------------------|------------------|------------------|------------------------------|---------|----------|-----------------------------|---------|----------|
| | No | % | χ | SD | Total | χ | SD | Total |
| Physicians ^a | 967 ^b | 83.4 | 739.70 | 1839.58 | 125010.0 | 1059.88 | 2168.43 | 179120.0 |
| Chiropractors | 48 | 4.1 | 232.03 | 329.38 | 7425.0 | 393.87 | 314.49 | 12210.0 |
| Acupuncturists | 25 | 2.2 | 472.50 | 687.17 | 9450.0 | 609.0 | 885.92 | 12180.0 |
| Herbalists | 269 | 23.2 | 186.10 | 212.91 | 42431.0 | 318.27 | 379.96 | 72565.0 |
| Spiritual healers | 308 | 26.7 | 250.62 | 655.74 | 15288.0 | 268.10 | 451.77 | 16354.0 |
| Hijamah | 151 | 13.0 | 297.12 | 131.03 | 37730.0 | 512.97 | 281.52 | 55335.0 |
| Cauterization | 109 | 9.4 | 217.43 | 138.88 | 17180.0 | 276.22 | 184.86 | 18000.0 |
| Camel milk and urine | 62 | 5.3 | 210.14 | 89.81 | 8915.0 | 397.35 | 132.08 | 17205.0 |
| Honeybee products | 172 | 14.9 | 252.08 | 220.52 | 42862.0 | 704.54 | 457.20 | 111741.0 |
| Massage | 45 | 3.9 | 211.26 | 183.56 | 8560.0 | 333.43 | 138.94 | 12380.0 |
| Total cost of CAM | 189841.00 | 327970.00 | | | | | | |

CAM: Complementary and alternative medicine.

^aCosts for visiting physicians, not providing CAM therapies, were not included. ^b781 did not pay for their visits (visiting governmental health care facilities).

creasingly accepted worldwide.¹⁶⁻¹⁹ The lifetime prevalence of CAM therapy use in the United States has increased steadily since 1950.²⁰

This increasing trend cannot be applied to the situation in Saudi Arabia, where traditional indigenous medicine rather than CAM is prevalent. CAM providers are mainly traditional healers. Only 11% (131/1160) of CAM visits were provided by physicians. The proportion of CAM users in our study is comparable to other published studies in Saudi Arabia, although they were conducted in other regions.^{12,13}

The most common practices used in the previous 12 months in our study were prayer, herbal medicine, wet cupping, and honeybee products. These practices are part of the traditional “Prophetic medicine” prevalent in Saudi Arabia. Chiropractic, homeopathy, and acupuncture were rarely used according to our study. Although prayers and herbs are part of TM/CAM in any country, other practices differ from one region to another.

Acupuncture and homeopathy are used more often in European countries than in the United States and Canada. In 2005, the World Health Organization’s Global Atlas of Traditional, Complementary, and Alternative Medicine revealed that chiropractic manipulation, homeopathy, phytotherapy/herbal medicine, and massage were the most commonly used therapies.²¹ If prayer had been considered, it would certainly be among the most commonly used therapies. When the study authors examined the use of prayer, it was in

at least the top 3 most commonly used therapies and usually showed the highest prevalence.

The use of CAM was more common among females and middle-age groups in our study. This trend is similar to published studies in Western countries. However, there was no consistent relationship between education or jobs and the use of CAM. While the use of CAM was higher in the highly educated and high-income population in the USA, this applied only to certain CAM therapies in our studies, such as wet cupping and honeybee therapies, but not to spiritual healings and cauterization.²² The relationship between education and the use of CAM is more complex and may interact with other factors such as race.²³

Chronic diseases was the most common reason for visiting a CAM provider in our study, and it is also a common reason in other countries. CAM users are more likely to be females with chronic illnesses.²⁴ However, in Western countries, the number of male and female adults visiting CAM practitioners increased from 1997 to 2008. The most prominent change was that younger people of both genders with more limited complaints increased CAM visitation.²⁵ The reasons for CAM utilization are complex and include the costs of traditional therapies, a desire for a more holistic approach to treatment, and dissatisfaction with current therapies.²⁶

The Qassim population is estimated to be 1.2 million (2012 projection); 50 % of them are <20 years of

age. We can estimate that the Qassim people are spending ≈ 650 million SR (175 million US\$) per year on CAM visits and ≈ 560 million SR (150 million US\$) on CAM products. These figures indicate a total spending of ≈ 1.2 billion SR (≈ 325 million US\$).

If 1.2 million people living in Qassim are spending 325 million US\$ per year, what can be estimated for the total population in Saudi Arabia? The total population of Saudi Arabia is now 28 million; if we assume that the CAM pattern in Qassim is applicable to all the regions in Saudi Arabia, this makes the total spending an estimated 8.2 billion US\$ per year in Saudi Arabia.²⁷

In most countries, CAM is not covered by national insurance systems, and users pay almost all costs out of pocket. This willingness to pay reflects the public's general acceptance of CAM and also suggests that CAM therapies have benefits that outweigh their costs. Eisenberg et al²² reported that the estimated expenditures for alternative medicine professional services increased by 45.2% between 1990 and 1997 and were conservatively estimated at \$21.2 billion in 1997 with at least \$12.2 billion paid out-of-pocket. This amount exceeded the 1997 out-of-pocket expenditures for all hospitalizations in the United States. A national health survey in 2007 revealed that more than \$34 billion is spent on CAM annually in the United States. In Germany, where some forms of CAM are covered by insurance, costs for alternative therapies in 2000 accounted for approximately one tenth of expenditures on general medical treatments.²⁸

Approximately half of the Australian population uses CAM, and they spent an estimated \$2.3 billion on CAM in 2000, which is nearly 4 times the public contribution to all pharmaceuticals.²⁹

The significance of these numbers indicates that CAM is attracting more and more attention within healthcare systems. More research would support the

further integration of CAM into conventional medicine as the benefits of these therapies are continually identified and published in scientific journals.

I-CAM-Q was used in studies in Western societies,^{24,30,31} but this is the first time it has been used in developing or Eastern countries, where TM rather than alternative medicine is common. As the questionnaire was designed for Western societies, the top CAM practices in the questionnaire were not the most common practices in Saudi Arabia. A new design should be constructed and customized for each region; however, we can keep the basic questions for the international comparison.

CAM therapies are widely used in the Qassim province, and this may reflect the situation in Saudi Arabia. Practices common in Saudi Arabia are related mainly to Islamic Medicine and include spiritual healings, herbs, hijama, and honeybee products. The out-of-pocket spending also reflects the high demand for CAM therapies. Accordingly, a consideration of the safety, effectiveness, and legal and economic issues appears to be warranted. Further national studies should be conducted to assess the comprehensive current situation of the use of CAM. Uniform nomenclatures, definitions of CAM, and therapy protocols would provide better transparency and understanding.

Acknowledgments

Investigators acknowledge with thanks the contribution of the following PHC physicians in Qassim for their contribution in the study: ALSayed AbdelMageed Ahmed, Awad AlKareem Ahmed Musa, Mohamed Awad ElNoby, Khaled AbdelHameed Abunawas, Hassan AlAmeen AbdelKareem, Ezat AbdelRahman AbuHashem, Manal Ibrahim AbdelMutaleb, Motaz Ahmed Mohamed, Khaled Abdulla Hamed, Nadia Hassan Abdullah Ali, and Mahmoud Mohamed Ahmed Bundok.

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