

# Use of complementary and alternative medicine among midlife Arab women living in Qatar

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## استخدام الطب المتمم والبديل لدى النساء العربيات في منتصف العمر اللواتي يعشن في قطر

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الخلاصة: إن استخدام الطب المتمم والبديل منتشر على نطاق واسع، وهو في تزايد في جميع أنحاء العالم. وقد قامت هذه الدراسة المستعرضة في قطر بدراسة استخدام الطب المتمم والبديل وارتباطاته لدى نساء عربيات في سنوات منتصف أعمارهن. فقد تطوعت نساء بأعمار 40-60 سنة (العدد = 814) في مراكز الرعاية الصحية الأولية في قطر، وقمن بملاء استبيان مصمم خصيصاً تم اختباره مسبقاً. فكان ما إجماليه 38.2% من النساء في منتصف العمر في قطر قد استخدمن الطب المتمم والبديل في الـ 12 شهراً السابقة. وكانت العلاجات الغذائية والعلاجات العشبية أكثر معالجات الطب المتمم والبديل شيوعاً في الاستخدام، تلتها الطرق الفيزيائية. وكانت الجنسية القطرية ومستوى التعليم الأعلى مرتبطة - بشكل مستقل - مع استخدام الطب المتمم والبديل. ولم تكن حالة سن الإياس الانتقالية مرتبطة - بشكل مستقل - مع استخدام الطب المتمم والبديل. وكان انتشار استخدام الطب المتمم والبديل من قبل النساء في قطر مرتفعاً، بما يتفق مع تقارير أخرى من جميع أنحاء العالم. وخلصت الدراسة إلى أن من الضروري تثقيف المرضى ومقدمي الرعاية الصحية وإطلاعهم على الفوائد والقيود المرتبطة بالطب المتمم والبديل.

**ABSTRACT** The prevalence of use of complementary and alternative medicine (CAM) is widespread and is growing worldwide. This cross-sectional study in Qatar examined the use of CAM and its correlates among Arab women in their midlife years. Women aged 40–60 years ( $n = 814$ ) were recruited at primary care centres in Qatar and completed a specially designed, pre-tested questionnaire. Overall, 38.2% of midlife women in Qatar had used CAM in the previous 12 months. Nutritional remedies and herbal remedies were the most commonly used CAM therapies, followed by physical methods. Qatari nationality and higher level of education were independently associated with CAM use. Menopause transition status was not independently associated with use of CAM. The prevalence of CAM use by women in Qatar was high, consistent with other reports worldwide. It is essential to educate and inform patients and health-care providers about the benefits and limitations associated with CAM.

## Recours aux médecines complémentaires et parallèles chez des femmes arabes en milieu de vie au Qatar

**RÉSUMÉ** L'utilisation des médecines complémentaires et parallèles est largement prévalente et en augmentation dans le monde. La présente étude transversale au Qatar a examiné le recours aux médecines complémentaires et parallèles et ses corrélats chez des femmes arabes en milieu de vie. Des femmes âgées de 40 à 60 ans ( $n = 814$ ) ont été recrutées dans des centres de soins de santé primaires au Qatar et ont rempli un questionnaire spécialement conçu ayant été testé au préalable. Au total, 38,2 % des femmes en milieu de vie interrogées vivant au Qatar avaient eu recours aux médecines complémentaires et parallèles durant les 12 mois précédents. Des remèdes nutritionnels et à base de plantes étaient les traitements complémentaires et parallèles les plus fréquemment utilisés, suivis par des méthodes physiques. La nationalité qatarie et un niveau d'études plus élevé étaient indépendamment associés à l'utilisation de médecines complémentaires et parallèles. Le statut de transition ménopausique n'était pas indépendamment associé à l'utilisation de ces médecines. La prévalence de leur utilisation chez les femmes au Qatar était élevée et concordait avec les études menées sur le sujet dans d'autres pays du monde. Il est essentiel d'éduquer et d'informer les patientes et les prestataires de soins de santé sur les bénéfices et les limites associés aux médecines complémentaires et parallèles.

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## Introduction

The demand for complementary and alternative medicine (CAM) is strong and growing worldwide. The reported prevalence of CAM use spans a wide range (40–70%), possibly due to varying definitions of CAM (1,2). The National Center for Complementary and Alternative Medicine (NCCAM) of the National Institutes of Health defines CAM as “a group of diverse medical and health care systems, practices and products that are not presently considered part of conventional medicine” (3,4), although it has been noted that there may be cultural differences in terms of what is considered complementary or alternative (5).

In general, women use CAM more often than men do (6). The use of CAM by women during midlife has been found to be higher than during other stages of the lifespan (7). In the United States of America (USA), CAM use during midlife by women is in keeping with the global trend (8). A cross-sectional study by Upchurch et al. which utilized data from the National Health Interview Survey found that 46% of women ages 40–59 years used CAM in the previous year, with biological therapies being used the most and prayer being frequently reported (9). That study also found ethnic differences in CAM use in the USA, consistent with reports that analysed data from the Study of Women’s Health Across the Nation (SWAN) over multiple collection points (10). In the 5 ethnic groups studied in the SWAN (white, black, Hispanic, Japanese and Chinese), white and Japanese women between the ages of 42 and 52 years were more likely to use CAM than the other ethnic groups, with white women using psychological remedies and Japanese women using herbal and physical remedies the most.

In Middle Eastern countries such as Qatar, CAM has been gaining popularity. A number of studies have examined

CAM use by cancer patients in Arab countries (11). A 2008 household study in Saudi Arabia found that the majority of participants using CAM were women (60.9%) and that of the persons sampled aged 50 years and over ( $n = 238$ ) 72% used alternative medicine; the most frequently used CAM by Saudi Arabians included prayer and nutritional/herbal remedies such as honey and black seed (12). In another study in Turkey, researchers found that 76% and 24% of the study sample reported using prayer and herbal remedies respectively (13). CAM use was also found to be prevalent in Palestine; in one study, 77% of women and 67% of men reported using CAM in the previous year (14). Little is known, however, about the use of CAM by Middle Eastern women specifically during midlife, and a search of the literature found no studies on this subject focusing on Qatari women.

Qatar is a rapidly developing nation and a member of the Gulf Cooperation Council (GCC). The purpose of this study was to investigate the use of CAM and the correlates of its use among women in their midlife years who were attending primary care centres in Qatar. Specifically, this report compared the use of CAM between Qatari and non-Qatari Arab women and among women reporting vasomotor, somatic and psychological symptoms. In addition, this report evaluated the independent associations of nationality, educational level and menopause status to CAM use. The findings from this study could be instructive in guiding public health policy and health professional education programmes in this region.

## Methods

### Study design and sampling

The Study of Women’s Health in Qatar (SWIQ) aimed to examine the physical, biological, psychological and social changes in women in their middle

years. It was a 2-phase, mixed-methods study conducted in Doha, Qatar. A report on the qualitative phase of the study has previously been reported (15).

Data for this study were derived from a cross-sectional study conducted from July 2011 to May 2012. Women were recruited from 9 primary care centres. The health centres were selected to represent geographically, east, west, north, south and central locations of the population in Qatar. Participants were eligible for inclusion if they were between 40 and 60 years of age, were of Qatari nationality or a national of another Arab country, and were Arabic or English speaking. Participants were excluded if they had a history of bilateral oophorectomy. A total of 951 women were approached to participate in the study. Of these, 64 were found to be ineligible and 46 women (4.8% of a total of 887 eligible) declined to participate in the study. Interviewer-administered, structured surveys were then conducted at the health centres and a total of 841 women completed the evaluation.

The protocol and consent form were approved by the institutional review committees at Weill Cornell Medical College–Qatar and at Hamad Medical Corporation, Qatar.

### Survey instrument

During the qualitative phase of this study, 6 focus group discussions were conducted as a precursor to the quantitative survey data collection to guide the development of the survey instrument. The focus groups examined the experiences of midlife transition in Qatari and Arabic women and explored whether any nationality differences needed to be considered in the development of the quantitative measures. A total of 41 Arabic-speaking women between the ages of 40 and 60 years (a mix of pre-, peri-, and postmenopausal women) participated, with 3 Qatari and 3 non-Qatari groups (15).

The survey instrument, which was developed using the existing SWAN survey as a foundation, was piloted by a trained moderator and assistant moderator, who were both culturally and linguistically matched to the focus group participants. The survey instrument was first developed in English, translated into Arabic and then back-translated into Arabic to confirm the quality of the translation. Themes and issues pertinent to survey development were identified during the focus groups through discussions held with participants immediately after piloting the survey, and appropriate revisions were made to the instrument (i.e. length, cultural and social acceptability of questions, ease of understanding questions, etc.) before it was used in the field.

## Measures

### Menopause status

Questions about menopause status included: the time of the last menstrual cycle, whether the woman had menstruated in the last 12 months, regularity of menstruation and whether cycles changed in length. Menopause status was categorized into premenopausal, perimenopausal and postmenopausal. Women having a hysterectomy but at least 1 ovary were categorized separately.

### Use of CAM

The SWIQ included questions about CAM use that were derived from the SWAN (10). Participants were asked whether, in the previous 12 months, they had used any of 5 types of self-care therapies: special diets or nutritional remedies, such as macrobiotic or vegetarian diets, or vitamin supplements or therapy; herbs or herbal remedies, such as homeopathy or Chinese herbs or teas; psychological methods, such as meditation and mental imagery and relaxation techniques; physical methods such as massage, acupressure, acupuncture; or folk medicine or traditional Chinese medicine. CAM

use was analysed as any CAM use if respondents reported use of any of the 5 CAM types or as the specific type reported.

### Symptom experience

To assess the presence or absence of 22 health-related symptoms, women were asked "Thinking back over the past 2 weeks, how often have you been bothered by any of the following?" (16,17). Each symptom was treated as a binary categorical variable (scored yes or no), and symptoms were analysed in 3 categories: vasomotor symptoms (hot flashes or night sweats); somatic symptoms (aches/stiffness in joints or headaches); psychological symptoms (feeling blue or depressed, mood changes, irritability or nervous tension) (10). Participants were categorized as being symptomatic in any of the 3 symptom categories if they reported having at least 1 of the symptoms in the category.

### Statistical methods

The chi-squared test was used to test for the difference in the distribution of categorical variables (any CAM use and use of specific CAM types) between Qatari and non-Qatari Arab women and between women reporting recent experience of symptoms and those who did not. Multivariable logistic regression analyses were used to evaluate the independent associations between nationality, education level, menopause status and CAM use. The odds ratios (OR), 95% confidence intervals (CI) and *P*-values of the covariates were reported. All statistical tests were 2-sided, and *P* < 0.05 was considered statistically significant. Analyses were performed using SAS, version 9.2 software.

## Results

The characteristics of the sample are presented in Table 1. Close to half (51.7%) of the participants were aged 40–49 years, and the remainder were

aged 50–59 years. Qataris comprised 45.2% of the sample while non-Qatari Arab women originated from many neighbouring countries.

Overall, 321 (38.2%) of midlife women in Qatar had used CAM in the previous 12 months. CAM use was significantly associated with educational status; significantly more CAM users were university graduates and professionals (55.1%) than were non-users (39.7%) (*P* < 0.001). Women reporting CAM use did not differ by age group or by menopause status from women who did not report CAM use. More CAM users than non-users were of Qatari nationality (50.5% versus 41.9% respectively) (*P* = 0.02). There was no difference in CAM use among non-Qatari Arabs by nationality.

For those who reported CAM use, nutritional remedies and herbal remedies were the most frequently used types of CAM, followed by physical methods (Table 2). Non-Qataris more often used nutritional remedies (*P* = 0.01), while Qataris more often used physical methods (*P* < 0.001) and folk medicine (*P* = 0.02). More Qatari women than non-Qataris reported use of more than 1 CAM therapy (15.8% versus 8.5%) (*P* = 0.003) (Figure 1).

Vasomotor symptoms were reported by 348 women, somatic symptoms by 739 and psychological symptoms by 716. Overall, women who reported vasomotor symptoms were more likely to use CAM than women who did not (41.7% versus 35.7%), although this difference did not reach statistical significance (*P* = 0.08) (Table 3). There was also a trend towards greater CAM use among women reporting somatic symptoms compared with women not reporting those symptoms (*P* = 0.08).

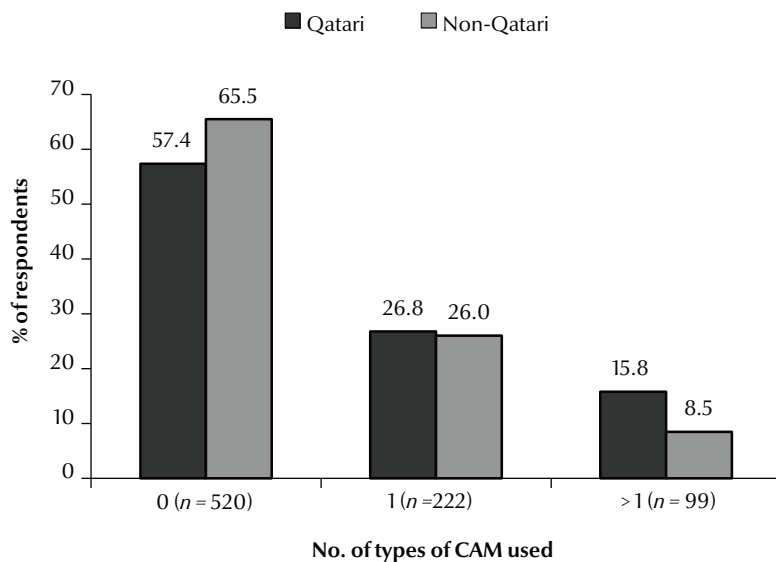
A description of symptom reporting by CAM use category is presented in Table 4. Women reporting vasomotor, somatic and psychological symptoms reported use of nutritional remedies

**Table 1 Selected characteristics of the study population, by complementary/alternative medicine (CAM) use status**

| Characteristic              | Total sample<br>(n = 841) |      | Any CAM use<br>(n = 321) |      | No CAM use<br>(n = 520) |      | P-value |
|-----------------------------|---------------------------|------|--------------------------|------|-------------------------|------|---------|
|                             | No.                       | %    | No.                      | %    | No.                     | %    |         |
| <b>Age (years)</b>          |                           |      |                          |      |                         |      |         |
| 40-49                       | 435                       | 51.7 | 169                      | 52.7 | 266                     | 51.2 | 0.67    |
| 50-59                       | 406                       | 48.3 | 152                      | 47.3 | 254                     | 48.8 |         |
| <b>Nationality</b>          |                           |      |                          |      |                         |      |         |
| Qatari                      | 380                       | 45.2 | 162                      | 50.5 | 218                     | 41.9 | 0.02    |
| Non-Qatari                  | 461                       | 54.8 | 159                      | 49.5 | 302                     | 58.1 |         |
| Egyptian                    | 144                       | 17.1 | 55                       | 34.6 | 89                      | 29.5 | 0.12    |
| Jordanian                   | 76                        | 9.0  | 30                       | 18.9 | 46                      | 15.2 |         |
| Palestinian                 | 56                        | 6.7  | 14                       | 8.8  | 42                      | 13.9 |         |
| Sudanese                    | 42                        | 5.0  | 9                        | 5.7  | 33                      | 10.9 |         |
| Lebanese                    | 34                        | 4.0  | 16                       | 10.1 | 18                      | 6.0  |         |
| Syrian                      | 33                        | 3.9  | 12                       | 7.6  | 21                      | 7.0  |         |
| Other                       | 76                        | 9.0  | 23                       | 14.5 | 53                      | 17.6 |         |
| <b>Education</b>            |                           |      |                          |      |                         |      |         |
| Illiterate                  | 57                        | 6.8  | 12                       | 3.7  | 45                      | 8.7  | < 0.001 |
| Primary                     | 66                        | 7.9  | 16                       | 5.0  | 50                      | 9.6  |         |
| Elementary                  | 99                        | 11.8 | 33                       | 10.3 | 66                      | 12.7 |         |
| Secondary                   | 235                       | 28.0 | 83                       | 25.9 | 152                     | 29.3 |         |
| University graduate & above | 383                       | 45.6 | 177                      | 55.1 | 206                     | 39.7 |         |
| <b>Menopause status</b>     |                           |      |                          |      |                         |      |         |
| Premenopausal               | 197                       | 23.4 | 79                       | 24.6 | 118                     | 22.7 | 0.80    |
| Perimenopausal              | 353                       | 42.0 | 135                      | 42.1 | 218                     | 41.9 |         |
| Postmenopausal              | 265                       | 31.5 | 99                       | 30.8 | 166                     | 31.9 |         |
| Hysterectomy                | 26                        | 3.1  | 8                        | 2.5  | 18                      | 3.5  |         |

**Table 2 Prevalence of use of any type and specific types of complementary/alternative medicine (CAM), by nationality**

| Use of CAM                   | Total sample<br>(n = 841) |      | Qatari<br>(n = 380) |      | Non-Qatari<br>(n = 461) |      | P-value |
|------------------------------|---------------------------|------|---------------------|------|-------------------------|------|---------|
|                              | No.                       | %    | No.                 | %    | No.                     | %    |         |
| <b>Any type</b>              | 321                       | 38.2 | 162                 | 42.6 | 159                     | 34.5 | 0.02    |
| <b>Nutritional remedies</b>  |                           |      |                     |      |                         |      |         |
| Yes                          | 158                       | 18.8 | 68                  | 17.9 | 90                      | 19.5 | 0.01    |
| No                           | 163                       | 19.4 | 94                  | 24.7 | 69                      | 15.0 |         |
| <b>Herbal remedies</b>       |                           |      |                     |      |                         |      |         |
| Yes                          | 134                       | 15.9 | 67                  | 17.6 | 67                      | 14.5 | 0.89    |
| No                           | 187                       | 22.2 | 95                  | 25.0 | 92                      | 20.0 |         |
| <b>Psychological methods</b> |                           |      |                     |      |                         |      |         |
| Yes                          | 25                        | 3.0  | 14                  | 3.7  | 11                      | 2.4  | 0.56    |
| No                           | 296                       | 35.2 | 148                 | 38.9 | 148                     | 32.1 |         |
| <b>Physical methods</b>      |                           |      |                     |      |                         |      |         |
| Yes                          | 97                        | 11.5 | 69                  | 18.2 | 28                      | 6.1  | < 0.001 |
| No                           | 224                       | 26.6 | 93                  | 24.5 | 131                     | 28.4 |         |
| <b>Folk medicine</b>         |                           |      |                     |      |                         |      |         |
| Yes                          | 38                        | 4.5  | 26                  | 6.8  | 12                      | 2.6  | 0.02    |
| No                           | 283                       | 33.7 | 136                 | 35.8 | 147                     | 31.9 |         |



**Figure 1** Number of types of complementary/alternative medicine (CAM) used, by nationality ( $P = 0.003$ , chi-squared test)

and herbal remedies most frequently, and then physical methods. It should be noted that these categories were not mutually exclusive and women often used more than one type of CAM.

A multivariable logistic regression model predicting CAM use is shown in Table 5. Qatari nationality was a significant predictor of CAM use (OR = 1.75; 95% CI: 1.29–2.37), after controlling for age, education level, menopause status and vasomotor, somatic and psychological symptoms. Level of education was an additional independent significant predictor of CAM use, whereby increasing level of education was associated with increasing use of CAM; university graduates and above were 3.75 times more likely to use CAM. Age, menopause transition status and symptom experience

were not independently associated with use of CAM.

## Discussion

This study found that, overall, 38.2% of midlife women in Qatar used CAM in the previous year, which was in the range (20–64%) reported from the SWAN using the same survey about CAM use (10). The use of CAM by women in Qatar follows the global trend, with 42.6% of Qatari women in our study reporting CAM use, compared with 34.5% of other Arab women in Qatar. Also in line with previous research findings (6), this study found that CAM use was more prevalent in women of higher educational status. Similar to findings of the SWAN, nutritional and herbal remedies were the

CAM therapies most commonly used by midlife women in Qatar (10).

Based on our study findings and observations made in other studies, it is evident that CAM use is quite prevalent in Qatar and other Arab states in the Middle East (11–14). While our study did not focus on reasons for their use, it has been reported that people use CAM remedies for a variety of reasons. These include the availability of CAM in local communities, the lower cost of CAM compared with conventional treatments and the perceived effectiveness and safety of CAM therapies (18). The perceptions of the public and more specifically of patients about the effectiveness and safety of CAM are of concern, since there are questions about the benefits and side-effects associated with commonly used CAM treatments (19–21).

In our study sample, it should be noted that non-Qatari women represented a diverse and heterogeneous group of women from 18 different nationalities, the most frequent being those from Egypt, Jordan, Palestine, Sudan, Lebanon and Syrian Arab Republic. Thus, they represented women of many backgrounds, who may vary in their use of particular types of self-care therapies.

This study had several limitations. First, since the survey ascertained CAM use among patients who were attending primary care centres, we cannot generalize these findings to all women of similar ages. Second, the CAM classification and questions used in this study were derived from the SWAN study questionnaire,

**Table 3** Prevalence of use of any type of complementary/alternative medicine (CAM), by menopause symptom category

| Use of any type of CAM | Vasomotor symptoms |      |     |      | Somatic symptoms |      |     |      | Psychological symptoms |      |     |      |
|------------------------|--------------------|------|-----|------|------------------|------|-----|------|------------------------|------|-----|------|
|                        | Yes                |      | No  |      | Yes              |      | No  |      | Yes                    |      | No  |      |
|                        | No.                | %    | No. | %    | No.              | %    | No. | %    | No.                    | %    | No. | %    |
| Yes                    | 145                | 41.7 | 176 | 35.7 | 290              | 39.2 | 31  | 30.4 | 273                    | 38.1 | 48  | 38.4 |
| No                     | 203                | 58.3 | 317 | 64.3 | 449              | 60.8 | 71  | 69.6 | 443                    | 61.9 | 77  | 61.6 |
|                        | $P = 0.08$         |      |     |      | $P = 0.08$       |      |     |      | $P = 0.95$             |      |     |      |

**Table 4** Prevalence of use of any type and specific types of complementary/alternative medicine (CAM), by menopause symptom category

| Use of CAM            | Vasomotor symptoms<br>Yes<br>(n = 348) |      | Somatic symptoms<br>Yes<br>(n = 739) |      | Psychological symptoms<br>Yes<br>(n = 716) |      |
|-----------------------|--|------|--------------------------------------|------|--|------|
|                       | No.                                    | %    | No.                                  | %    | No.  | %    |
| Any type              | 145                                    | 41.7 | 290                                  | 39.2 | 273  | 38.1 |
| Nutritional remedies  | 69                                     | 19.8 | 138                                  | 18.7 | 132  | 18.4 |
| Herbal remedies       | 69                                     | 19.8 | 127                                  | 17.2 | 118  | 16.5 |
| Psychological methods | 10                                     | 2.9  | 22                                   | 3.0  | 20   | 2.8  |
| Physical methods      | 44                                     | 12.6 | 86                                   | 11.6 | 84   | 11.7 |
| Folk medicine         | 15                                     | 4.3  | 35                                   | 4.7  | 34   | 4.8  |

**Table 5** Multivariable logistic regression analysis of any type of complementary/alternative medicine (CAM) use

| Predictor variable            | Adjusted OR (95% CI) | P-value |
|-------------------------------|----------------------|---------|
| <b>Age (years)</b>            |                      |         |
| 50-59                         | 0.97 (0.68-1.39)     | 0.89    |
| 40-49                         | Ref.                 |         |
| <b>Nationality</b>            |                      |         |
| Qatari                        | 1.75 (1.29-2.37)     | < 0.001 |
| Non-Qatari                    | Ref.                 |         |
| <b>Education level</b>        |                      |         |
| University graduate & above   | 3.75 (2.28-6.16)     | < 0.001 |
| Secondary                     | 2.35 (1.39-3.99)     | 0.002   |
| Elementary                    | 1.90 (1.03-3.49)     | 0.04    |
| Illiterate/primary            | Ref.                 |         |
| <b>Menopause status</b>       |                      |         |
| Postmenopausal                | 1.01 (0.63-1.61)     | 0.98    |
| Perimenopausal                | 0.91 (0.62-1.34)     | 0.63    |
| Premenopausal                 | Ref.                 |         |
| <b>Vasomotor symptoms</b>     |                      |         |
| Yes                           | 1.30 (0.96-1.76)     | 0.09    |
| <b>Somatic symptoms</b>       |                      |         |
| Yes                           | 1.48 (0.93-2.36)     | 0.10    |
| <b>Psychological symptoms</b> |                      |         |
| Yes                           | 1.07 (0.70-1.62)     | 0.77    |

Ref. = reference group; OR = odds ratio; CI = confidence interval.

which has some idiosyncrasies, as previously reported (22). For example, it classifies homeopathic treatments as herbal remedies. Additionally, it is recognized that there is not one standard definition of CAM. However, these particularities do not affect our estimate of the overall use of CAM in this study population. Third, this study did not enquire about the reasons for use of CAM.

There is no doubt that some CAM treatments are beneficial. Examples of these include use of acupuncture for nausea and chronic musculoskeletal pain, massage therapy for anxiety, and mind-body techniques such as meditation for pain and anxiety (19-21). There are many CAM therapies, however, which are either ineffective or might even be harmful to patients.

Coffee enemas, ozone therapy, mega-doses of vitamins, certain herbs and shark cartilage are examples of such therapies (19,21). It is therefore imperative to educate and inform patients about the benefits and limitations associated with CAM. It is also necessary to educate medical doctors about CAM (23) so that they can become better informed to help patients differentiate between safe, beneficial treatments and those that are harmful and ineffective. Our recommendations are consistent with the views of NCCAM, as well as other organizations whose mission is to define and disseminate the safety and efficacy of these practices (24,25).

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