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ORIGINAL ARTICLE

Knowledge, attitude, and practices of complementary and alternative medicine: a survey of physicians and nurses at an academic medical center in Beirut

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ABSTRACT

The aim of this study is to assess the knowledge, attitudes, and practices of complementary and alternative medicine (CAM) among physicians and nurses at the American University of Beirut Medical Center (AUBMC) in Beirut, Lebanon. A web-based survey was emailed to 518 physicians and 423 registered nurses in all medical departments at AUBMC. Of the 94 physicians responding to the survey, 61% have never referred a patient to a CAM practitioner yet 33% reported that they would refer if available. Sixty-two percent of physicians believed that incorporating evidence-based CAM therapies will increase patient satisfaction and 66% thought that offering CAM would attract more patients. Of the 80 nurses who responded, 78.7% have never referred a patient to a CAM practitioner, yet half reported that they would likely refer if a CAM practitioner was available. Fifty-seven percent of nurses surveyed believed that offering CAM would attract more patients while 59% thought that it would increase patient satisfaction. Most nurses were uncomfortable counseling patients about CAM modalities. Favorable attitudes towards CAM were reflected by the physicians and nurses as signified by the above-average attitude means towards CAM (M = 4.01, SD = .16 and M = 3.25, SD = .59, respectively). The study findings demonstrate that despite the physicians' and nurses' limited knowledge and their discomfort in counseling on CAM, they expressed acceptability and willingness in using and incorporating CAM therapies into clinical practice at AUBMC. This is the first study conducted in Lebanon that assesses both nurses' and physicians' perspectives on the use of all CAM domains in general within the same healthcare setting. This study not only provides baseline data but also highlights the knowledge gap and learning needs among physicians and nurses with regards to CAM.

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1. Introduction

The National Center for Complementary and Integrative Health (NCCIH) defines complementary and alternative medicine (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]. Despite the lack of evidence on the effectiveness of several CAM modalities, there has been a surge in the use of CAM with studies showing that between 30% and 98% of surveyed patients use some form of CAM modality [2,3]. The increasing acceptance of CAM by patients has been attributed to many factors including their dissatisfaction with and perceived ineffectiveness of conventional medicine [4], lack of trust in the healthcare system [5], the empowerment felt by patients when placed at the center of their health [6], the congruence between CAM and spirituality [7], and the ever-increasing costs of conventional medicine and health insurance premiums [8]. This interest among patients has been met by an outburst in the number of studies that have surveyed physicians' practices and beliefs about CAM [9].

Given that the East Mediterranean region is historically delineated from other regions by a rich inventory of CAM, the worldwide surge in the studies investigating general practitioners' knowledge, attitudes and practices towards CAM was observed across this region [10,11]. For instance, in a sample of Qatari general practitioners, the majority of the GPs (83.8%) reported welcoming attitudes in support of CAM despite the prevailing poor knowledge of CAM across the sample (39.1%) [12]. A cross-sectional study among a sample of primary health-care physicians in Riyadh, Saudi Arabia revealed that more than half of the physicians (51.7%) used CAM for themselves or their family, and only 14.2% referred their patients to CAM practitioners [13]. The majority of the physicians agreed that health practitioners should have knowledge about CAM therapies (85.1%) and that this knowledge about CAM advocates better patient outcomes (75.7%) [13]. Similarly, the results of an Iranian study indicated that despite nurses' little knowledge of CAM, the majority (71.1%) demonstrated positive attitude and the belief that CAM is effective for the treatment of diseases [14]. Despite the myriad of studies on CAM across the Middle

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Eastern countries, there remains a paucity of systematic studies that explore the regulatory framework for CAM products and the barriers that hinder the proper integration of CAM products into the healthcare system in this region [15].

A large geographical diversification exists in the prevalence estimates of CAM products' utilization and the types of CAM therapies most commonly used [16]. For instance, in Taiwan, 38% of the participants reported using CAM at least once in the previous year mainly in the form of medical herb and health supplements [17]. While in England the most commonly used CAM is massage, aromatherapy and acupuncture [18]. The case also differs across the Middle East region. In an Iranian sample of nurses, the most familiar CAM methods were nutrition, massage therapy and herbal medicine [14]. In Qatar, general practitioners were found to be more familiar with diet therapy and food supplements, acupuncture, and massage [12], and a study conducted in Kuwait revealed that 71% of the participants reported CAM use with herbal remedies being the main type used [19].

On the national level, several studies on CAM therapies were conducted in Lebanon [16,20,21]. These studies investigated the prevalence of CAM use and its correlates across Lebanese nationals at large and mainly targeted CAM as biologically based practices including substances found in nature, such as herbs, dietary supplements, multivitamin, and mineral supplements given that folk foods and herbs were reported as being the most commonly used CAM therapies in Lebanon [16,21]. To the best of our knowledge, the three other categories of CAM namely mind-body systems, manipulative and body-based practices, and energy medicine were minimally investigated in Lebanon. These studies have also revealed that the prevalence of CAM use among Lebanese people ranges from 15% to 89% [16]. The popularity of CAM products in Lebanon has not been conjoined with educational and national regulatory frameworks that enhance public safety and assist with the correct incorporation of CAM into mainstream medicine and healthcare system [15]. No certification or accreditation program for CAM providers in Lebanon is present and complementary therapies are not included in the medical curriculum in all medical schools. This calls for the need of medical institutions in Lebanon to work on the incorporation of CAM into the medical and nursing curricula [16].

As such, the purpose of this study is to assess the knowledge, attitude, and practices of physicians and nurses at the American University of Beirut Medical Center (AUBMC) regarding common CAM modalities (mind-body interventions, manipulative and body-based methods, energy therapies, biological-based therapies, and alternative medical systems). Specifically, the study aimed at answering the following questions: What is the knowledge base among physicians and nurses, and do they have enough baseline knowledge to counsel patients regarding efficacy, safety, and other aspects of CAM? What are the physicians' and nurses' attitudes toward CAM and to what extent do they utilize CAM services?

This is the first study in Lebanon to assess the aforementioned information towards all 5 CAM domains for physicians and nurses within the same healthcare setting in a major academic medical center.

2. Material and methods

This study was approved by the Institutional Review Board (IRB) at the AUBMC, one of the major academic medical centers in the Middle East. Using purposive sampling, a link to an anonymous, web-based survey was emailed to all 518 physicians and 423 registered nurses in all medical departments at AUBMC in July 2020. The use of purposive sampling ensured the obtainment of data from a sample of members that are similar in occupation and field. The survey was anonymous to avoid social desirability bias and to make the participants more comfortable and honest when answering. The link included a form for consent to participate in an online survey that delineated the aim of the study, the procedures, the benefits and risks, and their right for participation or withdrawal as well as contact information of the principal investigator and the IRB office. After reading the form, continuation into completing the survey was considered consent to participate. A pilot study that involved 10 physicians and 10 nurses was conducted to check for the clarity and cultural sensitivity of the questionnaires, and the questionnaires were then revised and adapted to the Lebanese context accordingly. Three email reminders were sent at weekly intervals. The study period extended from July 2020 to March 2021.

2.1. Physicians' questionnaires

The questionnaire used to measure the physicians' attitude toward CAM is the Integrative Medicine Attitude Questionnaire (IMAQ) [22]. IMAQ is composed of two subscales: (1) Openness subscale is comprised of elements that appraise openness to new CAM ideas and paradigms (2) Relationship subscale is comprised of elements that appraise the value of the health practitioner's introspection and relationship to the patient [22]. IMAQ items are rated on a 5-point likert scale (1 = strongly disagree and 5 = strongly agree). A mean score of 'integrative medicine attitude' is created by summing the responses to each item and then dividing by the total number of items. The mean scores were compared with the scale's midpoint average score of 3 construed as the neutral value of the scale. Scores above the midpoint indicate favorable attitudes, while those below indicate disapproving attitudes. This questionnaire has evidence of its reliability and validity in measuring attitudes toward

CAM. Initial findings support the use of the IMAQ in measuring attitudes of students and practitioners towards CAM interventions as a first step in understanding willingness to use these approaches to healing [22].

Physicians' knowledge and practices were measured by the items used from the CAM questionnaire initially created by Wahner-Roedler et al. who conducted a study on physicians' attitudes toward complementary and alternative medicine and their knowledge of specific therapies at Mayo Clinic [23] (Appendix A). The items were only adapted in terms of context, i.e. Mayo clinic terminologies were changed to AUBMC, and the most commonly used CAM modalities in Lebanon were incorporated into the questionnaire to measure physicians' knowledge. Permission to use the above items has been granted by the authors of the Mayo clinic study.

2.2. Nurses questionnaires

To measure the nurses' attitude toward CAM, the attitude section of the Nurse Complementary and Alternative Medicine Knowledge and Attitude Questionnaire (NrCAMK&A) [24] was used. This scale was found to possess high reliability with Cronbach alpha for attitude section of 0.81, and its evidence for validity was previously established [24]. The scale, which has eight items assessing belief and four items assessing practice, was also reported to be comprehensive in assessing nurses' attitudes and practices towards CAM [25].

As for the knowledge and practice assessment, the same items used for the physicians were used for the nurses. This was done to ensure the presentation of the same CAM therapy types to both nurses and physicians and the assessment of comparable attributes of knowledge and practice. (Appendix B)

Demographic data for both physicians and nurses included age, gender, specialty/department, years in practice, and time dedicated to patient care. Participants were also asked about their attendance of lectures, workshops, or training on CAM.

2.3. Statistical analyses

For each survey question, the response percentages from the total number of respondents are displayed. The comparison of percentages between the two groups was analyzed with the usage of Pearson's Chi-squared, a statistic used to determine whether a significant association exists between categorical variables. T-test and Analysis of Variance (ANOVA), statistical techniques used to analyze mean variation in response to variables across two or two or more groups were used as well to determine whether a significant difference exists between participants across demographic variables. A P-value <0.05 is considered significant.

3. Results

3.1. Physicians

3.1.1. Physician demographics

Of the 518 physicians who were invited by e-mail to participate in the Web-based survey, 94 (18.1% response rate) responded. Of the respondents, 45.5% were men and 54.5% were women. The age distribution, years in practice, specialties, time dedicated to patient care and CAM workshop/training/lecture attendance are shown in Table 1.

3.1.2. Practice of CAM among physicians

Physicians' responses to questions regarding utilization and practice of CAM are shown in Table 2.

While most physicians (55%) indicated that they discuss the possible benefits of CAM therapies with only 25% or less of their patients, the vast majority of physicians stated that it is the patient who initiates the discussion about the benefits and risks of CAM therapy. More than half of the physicians (62%) indicated that the incorporation of CAM therapies would have a positive impact on patient satisfaction. Similarly, most of the physicians (67%) thought that the incorporation of CAM therapies into the AUBMC practice would have a positive impact on attracting more patients.

Table 1. Demographics of physician respondents.

Category	Percentage of physicians
Age (years)	
25–35	37.7
36–45	26
46–55	16.9
≥56	19.5
Years in Practice	
1–5	34.2
6–10	20.5
11–15	8.2
16–20	8.2
>20	28.8
Specialty	
Internal Medicine	25.2
Family Medicine	18.3
Paediatrics	8.6
Surgery	7.6
Obstetrics & gynaecology	4.4
Radiology	2.2
Otolaryngology & Rhinology	2.2
Anaesthesiology	2.2
Psychiatry	1.1
Laboratory Medicine	1.1
Time dedicated to Patient care (%)	
0–25	2.8
26–50	20.8
51–75	31.9
>75	44.4
Attended Lecture, Workshop or Training on CAM	
No	76.6
Yes	23.4

Table 2. Physicians' responses to questions regarding CAM practice.

Question	Response (%)
How likely is it that you would refer a patient to a CAM practitioner for treatment of an ailment?	
Extremely Likely	4.2
Somewhat Likely	29.2
Neither Likely nor Unlikely	18.1
Somewhat Unlikely	23.6
Extremely Unlikely	25
Have you ever referred a patient to a CAM practitioner?	
No	61.1
Yes	38.9
With approximately what percentage of your patients do you talk about possible benefits of using a CAM therapy?	
0%	31.9
1–25%	55.6
26–50%	11.1
76–100%	1.4
With approximately what percentage of your patients do you talk about possible harmful outcomes of using CAM therapies?	
0%	26.4
1–25%	34.7
26–50%	19.4
56–75%	12.5
76–100%	6.9
To what extent does the current practice of CAM therapies in Lebanon represent a threat to the health of the public?	
Extreme Threat	11.1
Moderate Threat	59.7
No threat	29.2
Who usually initiates discussions of benefits and risks of a CAM therapy? Mark only one response, please.	
I initiate the discussion	19.4
Patient initiates the discussion	70.8
Third Party initiates the discussion	2.8
Not applicable	6.9
To what extent do you believe that the incorporation of evidence-based CAM therapies into AUBMC practice would result in increased patient satisfaction?	
Major Positive Impact	12.5
Some Positive Impact	50
Unsure	31.9
Somewhat negative Impact	1.4
Very Negative Impact	4.2
To what extent do you believe that the incorporation of evidence-based CAM therapies into the AUBMC practice would attract more patients.	
Major Positive Impact	15.3
Some Positive Impact	51.4
Unsure	31.9
Very Negative Impact	1.4
In your opinion, should AUBMC offer evidence-based CAM therapies?	
Definitely should	29.2
Probably should	38.9
Unsure	16.7
Probably should not	8.3
Definitely should not	6.9

Although most of the physicians (70.8%) perceived that the current practice of CAM therapies in Lebanon represents a threat to the health of the public, the majority (68.1%) still reported that AUBMC should offer evidence-based CAM therapies. The demographic characteristics of the physicians did not significantly affect these responses.

3.1.3. Physicians' knowledge

Of all the CAM modalities listed (Acupuncture, Chiropractic/Osteopathy, Massage, Homeopathy, Probiotics, Spiritual healing/prayer, Aromatherapy, Energy healing, Yoga, Tai Chi, Hypnosis, Naturopathy, Relaxation therapy, and Meditation), physicians were most familiar with yoga and felt comfortable counseling their patients about (29.2%), followed by acupuncture (26.4%), massage (25%) and meditation (23.6%). Physicians were least familiar with naturopathy (56.9%).

Of the listed herbs (garlic, ginger, valerian, Ginseng, Gingko Biloba), physicians were most familiar with garlic (26.1%) and ginger (21.6%), and least familiar with Valerian (14.8%). Forty-three percent of

physicians surveyed thought that it was difficult or very difficult to find information regarding herbs and 32% thought the same with regards to other CAM domains. The demographic characteristics of the physicians did not significantly affect these responses.

3.1.4. Physicians' attitudes

The mean of attitudes towards CAM ($M = 4.01$, $SD = .16$) was high among the physicians in the sample indicating that the majority of the sample reported favorable attitudes towards CAM given that the mean was above the midpoint score of 3. Mean score for the openness subscale was $M = 3.09$ ($SD = .33$) and relationship subscale $M = 3.83$ ($SD = .51$).

In the aim to investigate the difference of physician attitudes towards CAM across gender, age, years in practice, dedicated time to practice care, specialty, and previous attendance of CAM workshop or training, a series of independent sample t-tests and Analysis of Variance (ANOVA) were conducted. Significant differences for attitudes were only obtained across previous attendance of CAM workshop or training and specialty such as those who previously attended workshops and training of CAM reported more permissive attitudes towards CAM ($M = 4.36$, $SD = .44$) compared to those who did not attend any ($M = 4.18$, $SD = .32$) (t (75) = 1.894, $p = .05$), and those in the Family Medicine Department reported the most permissive attitudes towards CAM ($M = 4.60$, $SD = .41$), followed by those in Pediatrics ($M = 4.32$, $SD = .24$), Neurology ($M = 3.93$, $SD = .23$) and Surgery ($M = 3.85$, $SD = .14$)(F (6,24) = 5.020, $p = .002$).

Further analyses to investigate the difference of physician attitudes towards CAM across demographics and as per item response were generated. Significant results were reported for 7 IMAQ items. The significant results are presented in Table 3.

Of the 9 impact factors that could affect physicians' attitudes toward CAM, evidence from randomized controlled trials was convincing for 66% of physicians. A minor percentage of physicians (38%) reported that they were convinced by evidence which demonstrated the treatment's physiologic mechanism and clinical experience in the physician's patient population. More than half of the physicians (60%) reported that supporting religious texts had the lowest impact. These responses did not significantly differ across physicians' demographic characteristics. The physicians' ratings of the impact of various factors in their attitude towards CAM therapies are presented in Table 4.

Table 3. Total and per item IMAQ scores across variables.

Variable	Total IMAQ score (SD)	P-value
CAM workshop and training attendance		
YES	4.36 (0.44)	0.05
NO	4.18 (0.32)	
Specialty		
Family Medicine	4.60 (0.41)	0.02
Pediatrics	4.32 (0.24)	
Neurology	3.93 (0.23)	
Surgery	3.85 (0.14)	
	IMAQ item	**Score (SD)**
Gender		0.001
Male	Item 27	2.54 (0.85)
Female		3.19 (0.80) 0.016
Male	Item 3	2.88 (1.02)
Female		3.54 (0.99)
CAM workshop or training attendance		
Yes	Item 12	2.55 (0.98) 0.021
No		3.10 (0.82)
Yes	Item 8	4.16 (0.61) 0.047
No		3.71 (0.89)
Yes	Item 23	4.33 (0.84) 0.028
No		3.76 (0.97)
Years in Practice	Item 21	
More than 20 years		4.33 (0.65) 0.006
1–5 years in practice		3.52 (1.00)
Physician's age	Item 21	
56 and above		4.40 (0.50) 0.07
36–45		3.60 (0.88)
25-36		3.58 (1.01)
Physician's age	Item 16	
56 and above		3.40 (0.82) 0.0
36–45		3.10 (0.96)
25-36		3.13 (0.78)

Note. *Item 3*: Patients whose physicians are knowledgeable of multiple medical systems and complementary and alternative practices in addition to conventional medicine, do better than those whose physicians are only familiar with conventional medicine, *item 8*: End of life care should be valued as an opportunity for physicians to help patients heal profoundly, *item 12*: Therapeutic touch has been completely discredited as a healing modality, *item 16*: The physician's role is primarily to treat disease, not to address personal change and growth of patients, *item 21*: Instilling hope in patients is a physician's duty, *item 23*: Counseling on nutrition should be a major role of the physician towards the prevention of chronic disease, *item 27*: It is ethical for physicians to recommend therapies to patients that involve the use of subtle energy fields in and around the body for medical purposes.

3.2. Nurses

3.2.1. Nurses demographics

Of the 423 registered nurses who were invited by e-mail to participate in the Web-based survey, 80 (18.9%,) responded. Of the respondents, 37.7% were men and 62.3% were women. The age distribution, years in practice, specialties, time dedicated to patient care and attendance of CAM workshop/training/lectures are shown in Table 5. The median number of years in practice was 11 (1–34).

3.2.2. Practice of CAM among nurses

Nurses' responses to questions regarding the practice of CAM are shown in Table 6.

Nurses' responses did not differ significantly on the basis of gender, age, years of practice, time dedicated to patient care, department the nurses work in, and previous attendance of CAM workshop or training.

3.2.3. Nurses knowledge

Among the listed treatment modalities (same as for the physicians), nurses reported that they are most familiar and most comfortable counseling their patients about massage (37.7%), followed by relaxation therapy (27.9%)

Table 4. Physicians' ratings of the impact of various factors on their attitude towards CAM therapies.

Impact Factors	Rating of impact (%)				
	None	Minimal	Moderate	High	Definite
Personal experience; positive results when using therapy on myself	18.1	22.2	26.4	23.6	9.7
Recommendations of family and friends who have tried the therapy	23.6	33.3	27.8	12.5	2.8
Recommendations of respected colleagues who have used the therapy on themselves	15.3	34.7	26.4	22.2	1.4
Recommendation of a medical specialist or consultant to whom you have referred a patient	15.3	34.7	30.6	16.7	2.8
Case reports	27.8	37.5	20.8	11.1	2.8
Randomized controlled clinical trials	8.3	8.3	16.7	44.4	22.2
Evidence demonstrating the treatment's physiologic mechanism	9.7	22.2	29.2	31.9	6.9
Your clinical experience in your patient population	16.7	12.5	31.9	30.6	8.3
Supporting religious texts or practices	59.7	22.2	13.9	2.8	1.4

and Spiritual Healing/Prayer (26.2%). Nurses were least familiar with naturopathy (52.5%) and Tai Chi (52.5%) equally, followed by Chiropractic/Osteopathy (49.2%). Of the listed herbs, nurses were most familiar and most comfortable with counseling about ginger (39.3%) followed by garlic (34.4%), and least familiar with Valerian (57.4%) and Gingko Biloba (57.4%) equally.

Regarding the ability to access CAM information, 43% of the nurses reported that it was difficult and 11.5% of nurses reported that it was very difficult to find information regarding herbs. As for the CAM modalities, 50.8% of nurses reported that it was difficult and 8.2% reported that it was very difficult to find information concerning these CAM modalities.

3.2.4. Nurses attitudes

Nurses' responses to questions about their attitudes toward CAM are summarized in Table 7. The mean attitudes towards CAM of the nurses (M = 3.25, SD = .59) is above average indicating that the majority of the nurses in the sample reported favorable attitudes towards CAM given that the mean was above the midpoint score of 2.5. Mean score for the Belief-related subscale was M = 3.48 (SD = .61) and Practice-related subscale M = 2.90 (SD = .76).

To investigate the differences of nurses' attitudes towards CAM across demographic characteristics, a series of independent sample t-tests and Analysis of Variance (ANOVA) were conducted. As per item responses, results showed that nurses who attended a workshop or training on CAM (M = 3.85, SD = .69) were significantly more likely to report that they are comfortable in answering questions their patients have about CAM compared to those who did not attend a workshop or training (M = 2.82, SD = 1.00) (t (67) = −2.657, p = .01). Results also indicated that those with more than 75% of their time dedicated to patient care (M = 4, SD = .63) were significantly more likely to report that they believe patients have the right to have CAM therapies integrated into their conventional medical treatment compared to those with a lower time dedication to care (0–25%; M = 3.33, SD = 2.08) (F (3,65) = 2.804, p = .047). Those with 51–75% dedication to patient care (M = 3.16, SD = .78) were more likely to report that they can easily find reputable CAM resources for their patients compared to those with a lower time dedication to care (0–25%; M = 1.66, SD = .57) (F (3,65) = 2.938, p = .040).

Table 5. Demographics of nurse respondents.

Category (%)	Percentage of Nurses
Age (years)	
25–35	54.1
36–45	29.5
46–55	16.4
56 or older	-
Years in Practice	
1–5	16.5
6–10	27.8
11–15	14.7
16–20	26.2
>20	22.9
Department	
Department unspecified	37.8
Oncology	11.4
Emergency Department	9.8
Paediatrics	4.9
Coronary Care Unit	4.8
Operating Room	4.4
Neonatal Intensive Care	4.3
Family Medicine	3.2
Bone Marrow Transplantation	1.6
Pain Division	1.6
High Dependency Unit	1.6
Post Anaesthesia Unit	1.6
Epilepsy Monitoring Unit	1.6
Neuro intensive Unit	1.6
Psychiatry	1.6
52–9Surgery	1.6
Fertility Unit	1.6
Dedicated time to Patient care (%)	
0–25	4.9
26–50	4.9
51–75	24.6
>75	65.6
Attended Lecture, Workshop or Training on CAM	
No	91.8
Yes	8.2

Table 6. Nurses' responses to questions regarding CAM utilization and outcomes.

Questions	Responses (%)
How likely is it that you would refer a patient to a CAM practitioner for treatment of an ailment?	
Extremely Likely	-
Somewhat Likely	50.8
Neither Likely nor Unlikely	29.5
Somewhat Unlikely	14.8
Extremely Unlikely	4.9
Have you ever referred a patient to a CAM practitioner?	
No	78.7
Yes	21.3
With approximately what percentage of your patients do you talk about possible benefits of using a CAM therapy?	
0%	16.4
1–25%	49.2
26–50%	26.2
76–100%	6.6
With approximately what percentage of your patients do you talk about possible harmful outcomes of using CAM therapies?	
0%	37.7
1–25%	39.3
26–50%	13.1
56–75%	6.6
76–100%	3.3
To what extent does the current practice of CAM therapies in Lebanon represent a threat to the health of the public?	
Extreme Threat	8.2
Moderate Threat	42.6
No threat	49.2
Who usually initiates discussions of benefits and risks of a CAM therapy? Mark only one response, please.	
I initiate the discussion	11.5
Patient initiates the discussion	42.6
Third Party initiates the discussion	14.8
Not applicable	31.3
To what extent do you believe that the incorporation of evidence-based CAM therapies into AUBMC practice would result in increased patient satisfaction?	
Major Positive Impact	27.9
Some Positive Impact	31.1
Unsure	39.3
Somewhat negative Impact	1.6
Very Negative Impact	-
To what extent do you believe that the incorporation of evidence-based CAM therapies into the AUBMC practice would attract more patients?	
Major Positive Impact	18.0
Some Positive Impact	39.3
Unsure	37.7
Somewhat Negative Impact	3.3
Very Negative Impact	1.6
In your opinion, should AUBMC offer evidence-based CAM therapies?	
Definitely should	31.1
Probably should	47.5
Unsure	14.8

Table 7. Nurses' responses to questions about their attitudes toward CAM.

Attitudes towards CAM	Mean	SD
I assess my patients for CAM use.	2.91	.93
I am comfortable in assessing my patients for CAM use.	2.97	.97
I am comfortable in answering questions my patients have about CAM.	2.88	1.02
I believe that CAM therapies have a role in my practice.	3.37	.95
I believe patients have the right to have CAM therapies integrated into their conventional medical treatment.	3.83	.78
I believe it is my role to help integrate CAM therapies into patients' conventional treatments.	3.31	.81
I believe patients are accountable for disclosing use of CAM therapies.	3.55	.68
I believe I am accountable for assessing patients for CAM therapy use.	3.19	.92
I believe I am accountable for educating patients about CAM therapies.	3.08	.83
I believe it is important for my work place to integrate CAM into practice.	3.51	.80
I believe CAM education is important for my practice.	3.56	.83
I can easily find reputable CAM resources for my patients	2.86	.90

4. Discussion

This study comes at a time when CAM is becoming increasingly more integrated into the conventional health-care system and when research into this realm is growing exponentially. Despite lagging behind the west [15], CAM is making its way into the practice of medicine in many countries in the Middle East including Lebanon. Hence, it is prudent to examine the current knowledge, attitudes, and practices of physicians and nurses in a major academic medical center. According to the study's results, physicians and nurses both seemed to be open to the concept of CAM interventions. Yet, findings also indicated that physicians and nurses seemed to lack the adequate knowledge in discussing CAM with the patients. They possessed limited familiarity with most modalities and engaged in limited referrals to CAM practitioners. The majority also believed that CAM practice in Lebanon poses a potential threat to the public health. Despite these limitations, physicians and nurses still believe that AUBMC should offer evidence-based CAM therapies that will increase patients' satisfaction and the ability to attract new patients.

Several important findings were yielded by this study. In general, most of the physicians and nurses respondents indicated that they lack adequate knowledge regarding CAM as reflected by their lack of initiation of discussion of benefits and harms of CAM, their lack of or limited familiarity with most modalities, and their limited referrals to CAM practitioners. Results imply that physicians and nurses might have encountered challenges in discussing CAM with the patients as they feel that they are not adequately prepared to advise in this field. Similar findings have been reported in a study on CAM usage among Iranian patients [26] and Italian patients [27] where only less than half of the physicians discussed usage of CAM remedies with their patients. A meta-analysis also revealed that more than two-thirds of nurses (77.4%) lacked a comprehensive understanding of the risks and benefits associated with CAM use, and approximately half of them (47.3%) were uncomfortable discussing CAM therapies with patients [28].

Physicians in this study were unfamiliar with 10 CAM modalities out of 15, and with 3 herbs out of 5. Similarly, nurses were unfamiliar with 13 CAM modalities out of 15, and with 3 herbs out of 5. Limited CAM knowledge on the physicians' and nurses' part was also reported in previous studies as noted among a sample of Saudi physicians where the majority (73.7%) reported poor knowledge about CAM indicating the importance of receiving education about CAM [29]. Other studies measuring nurses' knowledge and attitude towards CAM revealed similar results indicating that nurses exhibited poor baseline knowledge [25,30]. Despite the widespread use of CAM, it has been observed that healthcare providers remain poorly prepared to interact or undertake justifiable conclusions in this regard; thus, leaving patients unmonitored with regard to safety and effectiveness of CAM therapies [31,32].

The low referral rate by physicians and nurses in this study was supported by previous studies. Despite the high usage of CAM, only a small percentage of the health-care practitioners recommended its usage [30,33]. The low referral rate and lack of discussion of CAM usage with patients could be attributed to physicians' and nurses' limited knowledge of CAM, incompetence, or inexperience, as also noted by other studies [32,34–36]. In fact, lack of educational training on CAM for healthcare practitioners was documented in Lebanon [16] where the curricula in major medical schools still offer no education and training.

Correspondingly, low referral rate could also be explained by the current study's results which indicated that the vast majority of physicians and half of the nurses believe that the current practice of CAM therapies in Lebanon represents a threat to the health of the public. This indicates that the practice of CAM is not yet seen without threat. Concretely, CAM continues to be viewed by health practitioners as unsafe and ineffective especially in the presence of well-tested conventional medicine [32,37]; thus, diminishing their willingness to prescribe CAM interventions to patients given that they possess insufficient knowledge and evidence to justify such prescriptions [32].

Despite the limited CAM knowledge reported by the physicians and nurses in the present sample, the participants still reported positive attitudes towards CAM. An interesting finding is that physicians scored higher on the relationship subscale compared to the openness subscale. This finding reflects relevance for gaining insight into the Lebanese context. The collectivistic culture of Lebanon allows one to emphasize the significance of the other and the interactions formed with them [38]. It follows that the traditional use of CAM therapies in Lebanon and other Arab regions is rooted in the family's and culture's traditional way of amplifying the body's well-being by sharing knowledge and experience through mutual interactions [16]. The favorable physician's attitudes towards CAM were in congruence with previous studies where growth of CAM interest in health promotion and symptom management as well as increase in the permissive attitudes towards CAM was observed throughout the past decades [36,39].

In the sample, physicians' attitudes towards CAM were found to be influenced by the evidence obtained from randomized controlled trials, evidence demonstrated by treatment's physiologic mechanism as well as clinical experience in the physician's patient population. Scientific evidence is ranked as the most influential factor possessing the capability to shape the physician's attitudes and beliefs towards CAM as documented by a study on a sample of chiropractic health practitioners and nurses [22].

Positive beliefs towards CAM were also reported by the nurses in the study. The majority of nurses positively rated the belief-related items of the Nurse Complementary and Alternative Medicine Knowledge and Attitude Questionnaire that point to the importance of CAM education for practice, importance of integrating CAM into practice, patients' accountability for disclosing the use of CAM and the nurses' right to integrate CAM into their conventional medical treatment. The two belief-related items which reflect the nurses' accountability and role in assessing and educating patients on CAM use as well as items that constitute the practice-related attitudes subscale were rated less positively. The majority of nurses' beliefs regarding their limited accountability to educate patients about CAM, and limited comfort in assessing patients for CAM use and answering their patients' CAM questions imply that nurses seem to be undecided regarding their role in this integration and possess limited knowledge regarding CAM use. These findings were similarly reported in other studies investigating nurses' CAM knowledge and attitude, whereby nurses held limited CAM knowledge but reported permissive attitudes towards CAM [25,30].

Difficulty in finding reliable information about CAM was expressed by both physicians and nurses. This is similar to the findings of another study that reported that physicians in their sample found it difficult or very difficult to find reliable information at Mayo Clinic about CAM treatments or techniques (62%) and herbs (49%) [23]. As such, there remains the need for additional educational campaigns on how to conduct searches through databases available at AUBMC.

The analysis of physicians' characteristics highlighted that physicians with fewer years in practice were most likely to refer a patient to CAM; thus, indicating that those who are new to the field have more acquaintance with CAM. Younger nurses (age range 25–35) were significantly more familiar and comfortable in counseling about massage compared to older nurses (age range 36–45). These findings are compatible with the finding that younger physicians are more likely to express a willingness to refer patients to CAM practitioners, i.e. holding a more permissive attitude [23]. CAM is a new arising practice, and senior physicians or those with long practical experience underwent medical school and residency at a time when CAM was not widely discussed or incorporated in the medical curricula [23]. CAM was predominantly ignored by physicians for the last 30 years and only recently did it begin to attract the attention of the scientific community and the health-care institutions [36].

Another significant difference was that physicians who previously attended workshops and training on CAM reported more permissive attitudes compared to those who did not. Similarly, nurses who attended a workshop or training on CAM were significantly more likely to report that they are comfortable in answering questions their patients have about CAM compared to those who did not. This is in concordance with a previous study that demonstrated a statistically significant relationship between general practitioners' previous training and their practice or referral pattern of CAM i.e. more permissive attitudes towards CAM [12].

A significant difference was similarly obtained for gender differences. Significantly more female physicians compared to male physicians reported more permissive attitude towards CAM on multiple items in the attitude questionnaire. Results similarly revealed that a significantly larger number of female physicians compared to male physicians reported that they were more familiar and comfortable in counseling on certain CAM modalities. These findings imply that females hold a more permissive attitude towards CAM as documented in previous studies whereby female physicians were more likely to express a willingness to refer patients to CAM practitioners and reflect a positive view towards holistic patient care [23,40]. Previous studies have also suggested greater use of CAM by females compared to males [23,40,41]. Females tend to be more motivated to use and hold more permissive attitudes towards CAM given that they are generally more likely to resort to preventive healthcare services, attempt to seek health information for both illness and wellness, and to have higher healthcare demands compared to males [41]. Females also tend to turn to CAM for the need to be listened to and cared for and to engage in an active role in gaining autonomy over their healthcare decisions [41,42].

5. Limitations

The response rate of the sample was low. This can be explained by the fact that the study was conducted at a time when the healthcare system was strained by the pandemic. The low response rate among the study's sample could also be attributed to the absence of or dissatisfaction with CAM use, or even disinterest in the topic due to limited acquaintance with CAM use and its incorporation into medical practice. Some of the items (questions) of the instruments used were not validated in previous studies; hence, this might be a threat to internal validity. However, a pilot study was conducted to check for the clarity and cultural sensitivity of the questionnaires, and the questionnaires were then revised and adapted to the Lebanese context accordingly. Given that web-based survey emails were sent to the physicians and nurses, it would be imperative to take into consideration that response bias might have taken place as those possessing strong feelings toward CAM were more likely to respond to the survey. Also, the type of surveys presented to the physicians and nurses are self-report questionnaires which might lead to social desirability biases; and hence, impact the internal validity. Despite the potential response bias resulting from a survey design, the implementation of this design was free from bias given the standardization in the administration of the survey

and the proper data cleaning of the obtained data. Additional limitation is related to the composition of the sample of physicians and nurses from one academic medical center; consequently, data obtained with regard to knowledge, attitude, and practices of CAM cannot be generalized to the entire Lebanese population. Furthermore, the survey investigated all CAM modalities together limiting the specificity of the results for any particular CAM domain or modality.

6. Conclusion

In conclusion, results of this survey highlight the challenges faced by physicians and nurses with issues related to CAM. Although physicians and nurses seem to be open towards CAM interventions, most of them do not feel qualified to discuss CAM with their patients and engage in referrals. The limited knowledge reported and the belief that CAM practice in Lebanon poses a potential threat to the public health clearly indicates that easily accessible resources on CAM need to be available for the healthcare providers.

Correspondingly, there appears to be a necessity for the provision of educational interventions and evidence-based information to physicians and nurses to incorporate CAM into their clinical practice. This can be established by incorporating education about evidence-based CAM modalities into the curricula of medical schools and residency training as well as attending training and workshops. Increasing knowledge through such channels is a topic for future research in an effort to assess their usefulness in positively affecting attitudes towards CAM.

The physician's limited communication with the patients regarding CAM might hold negative implications for healthcare management and outcomes. As such, discussing CAM usage with patients as well as guiding them on the potential benefits and harms is a significant duty that physicians and nurses should undertake.

Given that CAM is on the rise and is increasingly being practiced by the medical and the lay community in Lebanon, substantial research is needed to assess CAM knowledge and use among patients to be able to achieve a unified model of healthcare provision.

Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Authors Contribution

NM contributed to Literature review, study design, and had the main responsibility of writing the paper. DB contributed to the statistical analysis and interpretation of the results and contributed in writing the discussion section. MR reviewed the article and provided valuable feedback.

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Appendix A. Physicians' Questionnaire

Complementary and Alternative Medicine (CAM) Survey for Physicians

A Complementary and Alternative Medicine (CAM) practitioner is defined as an individual whose therapeutic practices are not currently considered an integral part of conventional allopathic medical practice. Alternative therapies include, but are not limited to acupuncture, herbal medicine, homeopathy, chiropractic, naturopathy, massage, and music therapy.

I. Utilization and outcomes

Please indicate your choice by checking the appropriate box.

1) How likely is it that you would refer a patient to a CAM practitioner for treatment of an ailment?
   - ○ Extremely likely
   - ○ Somewhat likely
   - ○ Neither Likely Nor Unlikely
   - ○ Somewhat Unlikely
   - ○ Extremely Unlikely
   - ○ No previous interaction with CAM practitioners

2) Have you ever referred a patient to a CAM practitioner?
   - ○ Yes
   - ○ No

3) With approximately what percentage of your patients do you talk about possible benefits of using a CAM therapy?
   - □ 0%
   - □ 1–25%
   - □ 26–50%
   - □ 51–75%
   - □ 76–100%

4) With approximately what percentage of your patients do you talk about possible harmful outcomes of using CAM therapies?
   - □ 0%
   - □ 1–25%
   - □ 26–50%
   - □ 51–75%
   - □ 76–100%

5) To what extent does the current practice of CAM therapies in Lebanon represent a threat to the health of the public?
   - □ Extreme Threat
   - □ Moderate Threat
   - □ No Threat

6) Who usually initiates discussions of benefits and risks of a CAM therapy? Mark only one response, please.
   - □ I initiate the discussion
   - □ Patient initiates the discussion
   - □ Sometimes I and sometimes the patient initiates the discussion
   - □ Third party initiates the discussion
   - □ Not Applicable

7) To what extent do you believe that the incorporation of evidence-based CAM therapies into AUB-MC practice would result in increased patient satisfaction?
   - □ Major Positive Impact
   - □ Some Positive Impact
   - □ Unsure
   - □ Somewhat Negative Impact
   - □ Very Negative Impact

8) To what extent do you believe that the incorporation of evidence-based CAM therapies into the AUBMC practice would attract more patients.
   - □ Major Positive Impact
   - □ Some Positive Impact
   - □ Unsure
   - □ Somewhat Negative Impact
   - □ Very Negative Impact

9) In your opinion, should AUBMC offer evidence-based CAM therapies?
   - □ Definitely should
   - □ Probably should
   - □ Unsure
   - □ Probably should not
   - □ Definitely should not

10) How much of an impact would each of the following have on convincing you of the effectiveness of CAM.
   - 1 No impact
   - 2 Minimal impact
   - 3 Moderate impact
   - 4 High impact
   - 5 Definite impact

	1	2	3	4	5
Personal experience; positive results when using therapy on myself					
Recommendations of family and friends who have tried the therapy					
Recommendations of respected colleagues who have used the therapy on themselves					
Recommendation of a medical specialist or consultant to whom you have referred a patient					
Case reports					
Randomized controlled clinical trials					
Evidence demonstrating the treatment's physiologic mechanism					
Your clinical experience in your patient population					
Supporting religious texts or practices					

II. Familiarity and Experience

1) For each of the following therapies please check the box which most closely represents your
   1 level of familiarity.
   2 I am unfamiliar with this therapy
   3 I have limited familiarity with this therapy
   4 I understand the proposed medicinal uses of this therapy, but do not feel comfortable counseling patients about the pros and cons
   5 I understand the proposed medicinal uses of this therapy, and Ifeel comfortable counseling patients about the pros and cons

CAM Modality	1	2	3	4
Acupuncture				
Chiropractic/Osteopathy				
Massage				
Homeopathy				
Herbal Medicine				
Probiotics				
Spiritual healing/prayer				
Aromatherapy				
Energy healing e.g Reiki, healing touch				
Yoga				
Tai Chi				
Hypnosis				
Naturopathy				
Relaxation therapy				
Meditation				

2) For each of the following herbs please check the box which applies to your level of familiarity.
   1 I am unfamiliar with this herb
   2 I have limited familiarity with this herb
   3 I understand the proposed medicinal uses of this herb, but do not feel comfortable counseling patients about the pros and cons
   4 I understand the proposed medicinal uses of this herb, and I feel comfortable counseling patients about the pros and cons

Herb	1	2	3	4
Ginger				
Garlic				
Valerian				
Ginseng				
Gingko Biloba				

3) How easy is it for you to find reliable information regarding herbs?
   □ Very easy
   □ Easy
   □ Neither difficult normal easy
   □ Difficult
   □ Very difficult
   □ I don't know how to access this information

4) How easy is it for you to find reliable information regarding other CAM therapies (e.g. acupuncture, massage therapy, etc.)?
- □ Very easy
- □ Easy
- □ Neither difficult normal easy
- □ Difficult
- □ Very difficult
- □ I don't know how to access this information

1 = Strongly disagree	2 = Disagree	3 = Neither agree nor disagree	4 = agree	5 = Strongly Agree

III. Attitudes:

1) A patient is healed when the underlying pathological processes are corrected or controlled.____
2) The physician's role is primarily to promote the health and healing of the physical body.____
3) Patients whose physicians are knowledgeable of multiple medical systems and complementary and alternative practices (i.e. Chinese, Ayurvedic, Osteopathic, Homeopathic, etc.), in addition to conventional medicine, do better than those whose physicians are only familiar with conventional medicine. ____
4) Physicians should warn patients to avoid using botanical medicines (herbs) and dietary supplements until they have undergone rigorous testing such as is required for any pharmaceutical drug._____
5) It is appropriate for physicians to use intuition ('gut feelings') as a major factor in determining appropriate therapies for patients. _____
6) The spiritual beliefs and practices of physicians play no important role in healing._____
7) The spiritual beliefs and practices of patients play no important role in healing._____
8) It is irresponsible for physicians to recommend acupuncture to patients with conditions like chemotherapy-related nausea and vomiting or headache. _____
9) End of life care should be valued as an opportunity for physicians to help patients heal profoundly._____
10) It is not desirable for a physician to take therapeutic advantage of the placebo effect. ____
11) Healing is not possible when a disease is incurable. _____
12) Physicians knowledgeable of multiple medical systems and complementary and alternative practices (i.e. Chinese, Ayurvedic, Osteopathic, Homeopathic, etc.), in addition to conventional medicine, generate improved patient satisfaction. _____
13) Therapeutic touch has been completely discredited as a healing modality. _____
14) Physicians who model a balanced lifestyle (i.e. Attending to their own health, social, family and spiritual needs, as well as interests beyond medicine) generate improved patient satisfaction._____
15) Quality of life measures are of equal importance as disease specific outcomes in research. _____
16) Chiropractic is a valuable method for resolving a wide variety of musculoskeletal problems (beyond back pain)._____
17) The physician's role is primarily to treat disease, not to address personal change and growth of patients. _____
18) Massage therapy often makes patients 'feel' better temporarily, but does not lead to objectiveimprovement in long-term outcomes for patients. _____
19) The innate healing capacity of patients often determines the outcome of the case regardless of treatment interventions. _____
20) A strong relationship between patient and physician is an extremely valuable therapeutic intervention that leads to improved outcomes. _____
21) Physicians who strive to understand themselves generate improved patient satisfaction. _____
22) Instilling hope in patients is a physician's duty._____
23) Physicians should be prepared to answer patient's questions regarding the safety, efficacy, and proper usage of commonly used botanical medicines such as Saw Palmetto, Valerian, etc._____
24) Counseling on nutrition should be a major role of the physician towards the prevention of chronic disease._____
25) Physicians should avoid recommending botanical medicines based on observations of long-term use in other cultures and systems of healing, because such evidence is not based on large randomized controlled trials. _____
26) Osteopathic manipulative therapy is a valuable method for resolving a wide variety of musculoskeletal problems (beyond back pain). _____
27) Information obtained by research methods other than randomized controlled trials has little value to physicians._____
28) It is ethical for physicians to recommend therapies to patients that involve the use of subtle energy fields in and around the body for medical purposes (i.e. Reiki, Healing touch, Therapeutic touch, etc.) _____
29) Physicians who strive to understand themselves provide better care than those who do not. _____

IV. DEMOGRAPHICS

1. What is your gender?
   a. Male
   b. Female
2. What is your age?
   c. 25–35
   d. 36 – 45
   e. 46–55
   f. 56 or older

3. After completion of residency how many years have you been in practice?
   □ 1–5
   □ 6–10
   □ 11–15
   □ 16–20
   □ >20
4. Specialty (Subspecialty) _____
5. Time dedicated to patient care:
   □ 0–25%
   □ 26–50%
   □ 51–75%
   □ >75%
6. Have you attended lectures or workshops on, or received training in, the use of any CAM therapies? □ Yes □ No
   If your answer is yes, please indicate the focus of the presentation or training.
   _____

Appendix B. Nurses' questionnaire

Complementary and Alternative Medicine (CAM) Survey for Nurses

A Complementary and Alternative Medicine (CAM) practitioner is defined as an individual whose therapeutic practices are not currently considered an integral part of conventional allopathic medical practice. Alternative therapies include, but are not limited to acupuncture, herbal medicine, homeopathy, chiropractic, naturopathy, massage, and music therapy.

I. Utilization and outcomes

1. How likely is it that you would refer a patient to a CAM practitioner for treatment of an ailment?
   [] Extremely likely [] Somewhat likely/ [] neither likely nor unlikely/
   [] somewhat unlikely [] extremely unlikely
2. Have you ever referred a patient to a CAM practitioner?
   [] yes [] No
3. With approximately what percentage of your patients do you talk about possible benefits of using CAM therapies
   a. 0%
   b. 1–25%
   c. 26–50%
   d. 51–75%
   e. 76–100
4. With approximately what percentage of your patients do you talk about possible harmful outcomes of using CAM therapies?
   a. 0%
   b. 1–25%
   c. 26–50%
   d. 51–75%
   e. 76–100%
5. To what extent does the current practice of CAM therapies in Lebanon represent a threat to the health of the public?
   a. Extreme Threat
   b. Moderate Threat
   c. No Threat
6. Who usually initiates discussions of benefits and risks of a CAM therapy?
   [] I initiate [] patient initiates [] third party initiates
   [] not applicable
7. To what extent do you believe that the incorporation of CAM therapies into AUB-MC would result in increased patient satisfaction?
   [] Major positive impact [] somewhat positive impact [] unsure
   [] somewhat negative impact [] very negative impact
8. To what extent do you believe that the incorporation of CAM therapies into the AUB-MC practice would attract more patients?
   [] Major positive impact [] somewhat positive impact [] unsure
   [] somewhat negative impact [] very negative impact
9. In your opinion, should AUBMC offer evidence-based CAM therapies?
   □ Definitely should
   □ Probably should
   □ Unsure
   □ Probably should not
   □ Definitely should not

II. Familiarity and Experience

1) For each of the following therapies please check the box which most closely represents your level of familiarity.
   5 I am unfamiliar with this therapy
   6 I have limited familiarity with this therapy
   7 I understand the proposed medicinal uses of this therapy, but do not feel comfortable counseling patients about the pros and cons
   8 I understand the proposed medicinal uses of this therapy, and I feel comfortable counseling patients about the pros and cons

CAM Modality	1	2	3	4
Acupuncture				
Chiropractic/osteopathy				
Massage				
Homeopathy				
Herbal Medicine				
Probiotics				
Spiritual healing/prayer				
Aromatherapy				
Energy healing e.g Reiki, healing touch				
Yoga				
Tai Chi				
Hypnosis				
Naturopathy				
Relaxation therapy				
Meditation				

3) For each of the following herbs please check the box which applies to your level of familiarity.
   1 I am unfamiliar with this herb
   2 I have limited familiarity with this herb
   3 I understand the proposed medicinal uses of this herb, but do not feel comfortable counseling patients about the pros and cons
   4 I understand the proposed medicinal uses of this herb, and I feel comfortable counseling patients about the pros and cons

Herb	1	2	3	4
Ginger				
Garlic				
Valerian				
Ginseng				
Gingko Biloba				

3)How easy is it for you to find reliable information regarding herbs at AUB-MC?
   □ Very easy
   □ Easy
   □ Neither difficult normal easy
   □ Difficult
   □ Very difficult

4) How easy is it for you to find reliable information regarding other CAM therapies (e.g. acupuncture, massage therapy, etc.) at AUB-MC?
   □ Very easy
   □ Easy
   □ Neither difficult normal easy
   □ Difficult
   □ Very difficult

III. Attitude

The following statements aim at assessing your attitude towards CAM, please indicate your preference by circling the appropriate number.

1 = Strongly disagree	2 = Disagree	3 = Slightly disagree	4 = Neither agree nor disagree	5 = Slightly agree	6 = Agree	7 = Strongly agree

I assess my patients for CAM use.	1	2	3	4	5	6	7
I am comfortable in assessing my patients for CAM use.	1	2	3	4	5	6	7
I am comfortable in answering questions my patients have about CAM.	1	2	3	4	5	6	7
I believe that CAM therapies have a role in my practice.	1	2	3	4	5	6	7
I believe patients have the right to have CAM therapies integrated into their conventional medical treatment.	1	2	3	4	5	6	7
I believe it is my role to help integrate CAM therapies into patients' conventional treatments.	1	2	3	4	5	6	7
I believe patients are accountable for disclosing use of CAM therapies.	1	2	3	4	5	6	7
I believe I am accountable for assessing patients for CAM therapy use.	1	2	3	4	5	6	7
I believe I am accountable for educating patients about CAM therapies.	1	2	3	4	5	6	7
I believe it is important for my work place to integrate CAM into practice.	1	2	3	4	5	6	7
I believe CAM education is important for my practice.	1	2	3	4	5	6	7
I can easily find reputable CAM resources for my patients.	1	2	3	4	5	6	7

IV. Demographics

1. What is your gender?
   - □ Male
   - □ Female
2. What is your age?
   - □ 25–35
   - □ 36–45
   - □ 46–55
   - □ 56 or older
3. Years in Practice:
4. Department:
5. Time dedicated to patient care:
   - □ 0–25%
   - □ 26–50%
   - □ 51–75%
   - □ >75%
6. Have you attended lectures or workshops on, or received training in, the use of any CAM therapies? □ Yes □ No

If your answer was yes, please indicate the focus of the presentation or training.