The utilization of complementary and alternative medicine in Taiwan: An internet survey using an adapted version of the international questionnaire (I-CAM-Q)

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Abstract

Background: In Taiwan, numerous studies have been conducted to investigate the use of complementary and alternative medicine (CAM). However, most of them focused on specific diseases or the use of particular methods. Therefore, the results of those studies were quite different and difficult to compare with those of studies from other countries. The International CAM Questionnaire (I-CAM-Q), meanwhile, is a unified tool that can provide comparable results for studies conducted worldwide. Thus, the aim of this study was to discover the proportions of people in Taiwan receiving CAM treatments from different types of health care providers by using an adapted version of I-CAM-Q (I-CAM-QT).

Methods: I-CAM-QT was developed by translating the Korean version of I-CAM-Q (I-CAM-QK) into traditional Chinese language because of the similarity of CAM usage and doctor licensing system. This study had two stages: the first was a pretest survey used to adjust the questionnaire, while the second was an internet-based survey used to collect data from the community.

Results: Of the 1200 survey respondents, 37% and 37.7% were prescribed or advised to use Chinese herbal medicine (CHM) by Western medicine (WM) physicians and traditional Chinese medicine (TCM) doctors, respectively. Other than CHM, dietary supplements and massage were the forms of CAM most commonly prescribed or recommended by WM physicians or TCM doctors. Overall, walking and relaxation techniques were the most commonly used self-help practices (used by 61.9% and 40.4% of the respondents, respectively). Additionally, 70.3% of the respondents had used at least one kind of dietary supplement in the past 12 months.

Conclusion: Regarding the utilization of CAM in Taiwan, this internet-based survey revealed that CHM, dietary supplements, and massage were the types of CAM most commonly prescribed or recommended by WM physicians or TCM doctors.

Keywords: Chinese herbal medicine; Complementary and alternative medicine; I-CAM-Q; Internet-based survey; Taiwan

1. INTRODUCTION

In recent decades, complementary and alternative medicine (CAM) has been widely used in countries around the world, including Taiwan. For example, the National Health Interview Survey (NHIS) conducted in the United States (US) in 2012 found that 36.8% of adults had used CAM in the previous year.[1] Moreover, a 2013 study conducted in the United Kingdom (UK) reported that the average one-year prevalence of CAM use was 41.1%,[2] while a 2017 study found that 86.0% of the German population had used CAM.[3] It can thus be seen that CAM has become increasingly accepted and used by people in countries around the world.

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In Taiwan, CAM, especially traditional Chinese medicine (TCM), has long been used widely. Relatedly, there have been numerous studies of CAM usage in Taiwan; however, most of them reported the CAM utilization patterns of patients with specific diseases (eg, depression, diabetes).[4,5] Three studies conducted via telephone surveys of the general population reported that 75.5% to 86.9% of respondents had used at least one type of CAM therapy in the past year.[6–8] In 2009, Lin KC et al conducted a survey and found that the most commonly used type of CAM consisted of religious rites and exercises (qigong or yoga) (55.3%), followed by Chinese herbal medicine (CHM) (45.1%), dietary supplements (40.2%), massage (25.9%), scraping (or "guasha") (22.2%), and acupuncture (13.6%).[7]

However, although many people may try various forms of CAM, they do not typically abandon the conventional treatments of Western medicine (WM) completely. Instead, they use several methods simultaneously to maintain health and treat diseases.[9] In addition, some investigations and studies have found that when people go to the hospital, they do not necessarily tell the doctor about their use of CAM.[10–12] Therefore, it is necessary to investigate the utilization of CAM and provide that information to clinicians for their reference. However, due to differences in national conditions and definitions of CAM, a unified investigation tool for CAM was lacking until fairly recently. As such, the results of studies regarding the use of CAM conducted in different countries around the world were often very different in nature and, thus, difficult to compare.

Given this lack of unity, as well the increasing usage of CAM and related research needs, the International CAM Questionnaire (I-CAM-Q) was developed in 2009 by the National Research Center in Complementary and Alternative Medicine (NAFKAM) in Norway to standardize surveys of the use of CAM in various regions and countries.[13] In short, the questionnaire is a standardized survey tool that can provide comparable results among different countries, and the questionnaire has already been used for surveys about CAM in several countries.[14–17]

To evaluate the use of CAM in Taiwan, we translated the I-CAM-Q into a traditional Chinese version (I-CAM-QT) and conducted a web-based survey. This was the first time that the I-CAM-Q has been used to investigate the utilization of CAM in Taiwan. Moreover, the results of this study were used to compare the use of CAM in Taiwan with CAM usage in other countries.

2. METHODS

2.1. Survey instrument

The original questionnaire was developed in 2009 by the aforementioned research center in Norway and has since been modified for use in different countries. This study translated the Korean version of the I-CAM-Q[18] into Traditional Chinese. This is because Korea and Taiwan have similar cultural backgrounds with respect to CAM usage as well as similar licensing systems for doctors, that is, both countries have one licensing system for conventional WM physicians and another for traditional medicine practitioners. The Korean version of the I-CAM-Q (I-CAM-QK) was developed based on the Japanese version of the I-CAM-Q (I-CAM-QJ).[19] In addition, a "complications of CAM use" section was added as we wanted to know whether the respondents had ever suffered any complications while receiving CAM treatments. Some of the contents of the modified questionnaire were then further revised based on the reviews by five relevant medical (both WM and TCM) and epidemiological experts in Taiwan for face validity.

2.2. Study design and sample

This study utilized a cross-sectional research design and was mainly divided into two phases. The first phase was the pretest questionnaire. The questionnaire interview was conducted in Taipei Veterans General Hospital with 10 volunteers. The purpose of analyzing the data from this small sample of respondents was to determine the applicability and correctness of the questionnaire and to develop I-CAM-QT.

In the second phase, a web-based survey using the I-CAM-QT was performed with the help of a survey company in Japan (MACROMILL Inc., Tokyo, Japan). For each generation, namely, people in their twenties, thirties, forties, fifties, and sixties, approximately 120 respondents of both genders, that is, male and female, were needed ($120 \times 2 \times 5 = 1200$). Because one purpose of this study was to compare the survey data with similar data from other countries, we collected the same number of answers from each generation/gender. It should be noted, however, that people who work in healthcare and media were excluded from participation in the study.

The database of internet addresses used included those of people in the general population. The internet survey began by asking 240 respondents from each generation group to respond to the survey via email. The questionnaire was emailed again to groups that did not reach the target number. The survey was conducted from January 25, 2018, to February 06, 2018. No specific group of people was over-represented. There was no stratification of any kind, such as stratification according to different regions of the country.

This web-based survey was performed after obtaining the approval of the institutional review board (IRB) of Taipei Veterans General Hospital (IRB 2017-09-003BC) and the ethics committee of Nihon Pharmaceutical University (approved number: 29–03). Before initiation, this survey was registered in the University Hospital Medical Information Network in Japan (UMIN000029161).

3. RESULTS

3.1. Demographics

A total of 1200 individuals were enrolled in the survey. They were evenly distributed in each age group and gender group. Table 1 presents the demographic characteristics of the survey population. In terms of educational background, 45.8% of all the respondents graduated from a university. Regarding their current health condition, most of the respondents indicated that they were in "good" or "acceptable" health (38.3% and 43.1%, respectively), while only 1.3% of respondents reported that they were in "very bad" health. With respect to chronic disease/disorders, 39.1% of the respondents reported that they had at least one such health problem, with the most frequent problems being hypertension (35.4%), dental disease (26%), and gastrointestinal disease (21.2%). More than two-thirds of all the respondents subscribed to private insurance.

3.2. Healthcare providers

About 82.5% of all the respondents had received healthcare services from WM physicians in the past year. Following this were the proportions who had received healthcare services from dentists and pharmacists, at 66.7% and 45.4%, respectively. Meanwhile, 476 of the respondents (39.7%) had visited TCM doctors in the past year. With regard to CAM providers other than TCM doctors, the percentage of respondents receiving services from massage practitioners or acupressure therapists was fairly high (24.3%). Most of the participants who visited TCM doctors did so for chronic illnesses or the general improvement of well-being, while the most common motivation for seeing WM physicians was for acute illnesses (Table 2).

Table 1

Demographics of the internet survey respondents

	Number	%
Total number	1200	
Gender		
Male	600	50
Female	600	50
Age		
20s	240	20
30s	240	20
40s	240	20
50s	240	20
60s	240	20
Education		
Middle school	40	3.3
High school	191	15.9
College	197	16.4
University	549	45.8
Graduate	216	18
Other	7	0.6
Health condition		
Excellent	80	6.7%
Good	459	38.3%
Acceptable	517	43.1%
Bad	128	10.7%
Very bad	16	1.3%
Subscribing to private medical insurance		
Subscribe	843	70.3%
Not subscribe	357	29.7%
Health problems		
Yes	469	39.1%
Hypertension	166	35.4%
Stroke (cerebral hemorrhage, cerebral infarction, etc.)	5	1.1%
Heart disease	30	6.4%
Diabetes	62	13.2%
Dyslipidemia (hyperlipidemia)	74	15.8%
Respiratory illness	23	4.9%
Diseases of the gastrointestinal tract (gastrointestinal, liver, gall bladder, pancreas, etc.)	99	21.2%
Kidney and urological diseases	42	9.0%
Musculoskeletal diseases (osteoporosis, arthropathy, back pain, etc.)	86	18.3%
Trauma (falls, fractures, etc.)	24	5.1%
Cancer (including blood cancer and sarcoma)	15	3.2%
Blood disease (other than tumor)	10	2.1%
Immune disease (such as collagen disease)	21	4.5%
Mental disorders such as depression/dementia	36	7.7%
Nose disease	87	18.6%
Eye disease	72	15.4%
Ear disease	27	5.8%
Skin disease	91	19.4%
Tooth disease	122	26%
Others	44	9.4%
No	731	60.9%

3.3. CAM treatments from WM physicians or TCM doctors

As shown in Table 3, the form of CAM treatments that WM physicians had most commonly advised the respondents to use in the past 12 months were dietary supplements (44.8%), followed by CHM (37.0%) and massage (24.9%). Similarly, CHM, dietary supplements, and massage were the CAM treatments that the respondents had most commonly been prescribed or recommended by TCM doctors in the past 12 months (with 37.7%, 19.9%, and 18.2%, respectively) (Table 4). Most of the respondents indicated that the CAM treatments prescribed or advised by WM physicians or TCM doctors were for chronic illnesses or for the improvement of well-being. To obtain further information regarding the pattern of CHM usage in Taiwan, the respondents were asked what types of CHM they had used within the last year. The most commonly used type was prescribed manufactured CHM (39.1%), followed by dietary supplements containing herbs (19.8%) and prescribed CHM decoctions (10.8%) (data not shown).

3.4. Self-help practices

Overall, walking and relaxation techniques were the most commonly used self-help practices (used by 61.9% and 40.4% of the respondents, respectively). The least common self-help practices were magnet therapy (3.8%) and traditional healing ceremonies (1.5%). The improvement of well-being was indicated as the most common motivation for using self-help practices. Most of the participants found that self-help practices were very or somewhat helpful (Table 5).

3.5. Use of dietary supplements

More than two-thirds of all the survey respondents (70.3%) had used at least one kind of dietary supplement in the past 12 months (including vitamins, calcium supplements, and so on). Among those respondents, 9.6% reported still using the above dietary supplements at the time of the survey. The main motivation was the improvement of well-being (>75.0%). More than 50.0% of the respondents felt that dietary supplements were somewhat helpful (data not shown).

3.6. Places to buy CHM and dietary supplements

The places that respondents most commonly chose to buy CHM and dietary supplements were pharmacies (41.0%), followed by drug stores (38.1%), and internet shopping sites (30.1%). On the contrary, purchases made by were the least common type of purchase (1.8%) (data not shown).

3.7. Complications of using CAM

Thirty-one respondents reported at least one complication from CAM treatments prescribed or recommended by health caregivers. About 50% of the complications had occurred within the last year. The treatments that most commonly caused complications were massage, CHM, and chiropractic treatments, at 25.8%, 22.6%, and 19.4%, respectively. On the contrary, acupuncture, moxibustion, and homeopathy caused fewer complications (6.5%, 3.2%, and 0%, respectively). TCM doctors, folk physiotherapists, and massage practitioners were reported to cause about 60% of the complications. The most frequent complications were musculoskeletal symptoms (64.5%), such as bone fractures, ecchymosis, and pain, followed by general symptoms (vomiting, abdominal pain, loss of appetite, diarrhea, fever), neurological symptoms (headaches, dizziness, numbness, frequent urination), and allergic symptoms (itchiness, red rash, cough), at 29.0%, 22.6%, and 16.1%, respectively (data not shown).

4. DISCUSSION

The Taiwanese health care system, like those of Korea and China, includes two types of medical doctors, one being WM physicians, who practice conventional medicine and one being TCM doctors, who practice traditional medicine.[20–22] WM physicians can integrate WM with CAM, and some doctors with dual licenses are experts in both WM and TCM, while TCM doctors provide TCM combined with other types of CAM types.[23] This study investigated the prevalence rates with which different kinds of CAM have been prescribed or recommended by WM physicians and TCM doctors in Taiwan.

Table 2

Visiting different types of health care providers by internet survey respondents

Health care providers	Visiting frequency, %	Motivation, %				Helpfulness, % (very and somewhat)
		Acute illness	Chronic illness	Improvement of well-being	Others	
WM Physicians	82.5	42.2	33.8	16.4	7.6	90.4
TCM doctors	39.7	14.9	37.2	41.2	6.7	83.6
Dentist	66.7	19.9	15.0	55.4	9.7	92.0
Pharmacist	45.4	35.8	25.5	27.5	11.2	87.7
Nurse	24.6	35.2	24.4	31.2	9.2	86.8
Maternity nurse	1.1	7.6	30.8	30.8	30.8	53.9
Massage practitioner/acupressure therapist	24.3	10.3	20.6	58.1	11.0	83.2
Nutritionist	5.7	4.4	27.9	67.6	0.0	88.2
Yoga instructor	7.1	3.5	5.9	87.1	3.5	83.5
Chiropractor	10.9	13.7	32.1	45.8	8.4	85.5
Aromatherapist	8.2	5.1	6.1	79.6	9.2	78.6
Spiritual therapist	1.9	4.3	34.8	52.2	8.7	74
Homeopathy therapist	1.7	20.0	30.0	45.0	5.0	80.0
Folk physiotherapist	5.3	20.3	12.5	28.1	39.1	65.6
Others	0.3	0.0	0.0	52.4	47.6	52.4

Number of respondents: 1200.

TCM = traditional Chinese medicine; WM = Western medicine.

Table 3

CAM received by practice or advice of Western medicine physicians

CAM treatments	Received frequency, %	Motivation, %				Helpfulness, % (very and somewhat)
		Acute illness	Chronic illness	Improvement of well-being	Others	
Acupuncture	12.3	22.3	39.9	33.1	4.7	82.5
Moxibustion	14.9	18.4	46.4	31.8	3.4	85.5
Chinese herbal medicine	37.0	14.4	37.4	45.3	2.9	85.1
Cupping	12.3	12.2	34.4	45.3	8.1	83.1
Dietary supplements	44.8	4.8	13.4	81.1	0.7	79.8
Herb therapy	15.6	4.3	11.2	79.7	4.8	68.5
Aromatherapy	9.3	8.0	14.3	74.1	3.6	84.8
Massage	24.9	12.7	22.7	59.5	5.1	84.6
Chiropractic	10.4	17.6	33.6	48.0	0.8	86.4
Homeopathy	3.5	23.8	38.1	33.3	4.8	80.9
Spiritual therapy	4.2	8.0	18.0	70.0	4.0	78.0
Qigong	2.2	15.4	23.1	61.5	0.0	80.7
Magnet therapy	2.8	14.7	11.8	73.5	0.0	82.4
Other	0.3	50.0	25.0	25.0	0.0	100.0

Number of respondents: 1200.

CAM = Complementary and alternative medicine.

The prevalence rates of respondents who had received treatment from WM physicians and TCM doctors were 82.5% and 39.7%, respectively. The most common motivation for consulting WM physicians was acute illness, while for TCM doctors, the most common motivation was to improve well-being. These results indicated that Taiwanese people seek out different kinds of treatment according to their diseases and symptoms.

Our results showed that about 37.0% and 37.7% of the participants had used CHM on the advice of WM physicians and TCM physicians, respectively. In comparison, previous studies using the I-CAM-Q in Cambodia, Thailand, and Vietnam (Table 6) indicated that the proportions of respondents using herbal medicine were 44.5%, 34.6%, and 42.9%, respectively.[17] Meanwhile, studies using the Korean and Japanese versions of the I-CAM-Q reported that the prevalence rates at which Korean medicines (decoction) and Kampo medicines (prescribed and over-the-counter) were used were 36.2% and 31.1%, respectively.[18,19] Contrarily, in another study, only 18.5% of Australian respondents reported using herbal medicine,[24] while an internet-based survey in Sweden showed that herbal medicine usage was reported by 23% of all respondents.[25] A recent internet survey of private clinic doctors in Japan showed that Kampo medicines were the most popular CAM (34.8%).[26] Together, these reports indicated that herbal medicine may be still more popular in Asian countries than countries in other areas around the world.

In the previous study conducted via telephone interviews, Lin et al[7] found that religious rites and exercises (qigong or yoga), CHM, and dietary supplements were the most commonly used types of CAM. The prevalence of participants using CHM was 45.1% in that study. In this survey, CHM, dietary supplements, and massage were the types of CAM most commonly prescribed or recommended by WM physicians or TCM doctors. As mentioned above, 37.0% and 37.7% of the respondents were

Table 4

CAM received by practice or advice of traditional Chinese medicine doctors

CAM treatments	Received frequency, %	Motivation, %				Helpfulness, % (very and somewhat)
		Acute illness	Chronic illness	Improvement of well-being	Others	
Acupuncture	12.6	24.5	41.0	30.5	4.0	85.4
Moxibustion	14.1	19.5	50.9	27.8	1.8	90.0
Chinese herbal medicine	37.7	15.3	40.0	42.5	2.2	85.4
Cupping	10.7	15.6	39.8	40.6	3.9	87.6
Dietary supplements	19.9	7.5	16.3	75.7	0.4	82.8
Herb therapy	9.0	6.5	13.0	80.5	0.0	74.0
Aromatherapy	4.3	9.8	13.7	76.5	0.0	82.3
Massage	18.2	13.8	28.0	55.5	2.7	87.6
Chiropractic	7.3	17.2	32.2	49.4	1.1	85.1
Homeopathy	2.3	26.0	33.3	40.7	0.0	88.9
Spiritual therapy	2.3	7.1	25.0	64.3	3.6	85.7
Qigong	1.8	9.1	27.3	63.6	0.0	77.3
Magnet therapy	1.9	13.0	30.4	56.5	0.0	65.2
Other	0.2	25.0	12.5	12.5	50.0	62.5

Number of respondents: 1200.
CAM = Complementary and alternative medicine.

Table 5

Patterns of self-help practices among internet survey respondents

Self-help practices	Used frequency, %	Motivation, %				Helpfulness, % (very and somewhat)
		Acute illness	Chronic illness	Improvement of well-being	Others	
Meditation	10.8	4.6	9.2	82.3	3.8	76.2
Yoga	12.3	0.7	9.5	89.8	0.0	86.3
Qigong	5.2	3.2	16.1	79.0	1.6	87.1
Taichi	3.6	0.0	16.3	79.1	4.7	79.1
Relaxation techniques	40.4	1.2	5.2	91.3	2.3	83.7
Music therapy	17.8	1.4	6.5	89.3	2.8	83.1
Picture therapy	3.3	2.5	15.0	82.5	0.0	87.5
Attending traditional healing ceremony	1.5	0.0	22.2	77.8	0.0	83.3
Praying for own health	10.9	6.1	9.9	79.4	4.6	64.1
Electric massage machine	12.9	9.7	29.7	60.0	0.6	85.8
Other health appliances	11.1	3.0	18.0	77.4	1.5	82.7
Walking	61.9	1.3	5.1	91.8	1.7	78.3
Forest therapy	9.4	2.7	8.0	89.4	0.0	81.4
Aromatherapy	10.8	3.9	9.3	84.5	2.3	79.8
Hyperthermia	11.3	9.6	24.4	65.2	0.7	87.5
Magnet therapy	3.8	6.5	32.6	58.7	2.2	78.2
Spa therapy	12.3	0.0	10.2	87.8	2.0	83.6
Bath additive	10.0	0.8	7.5	87.5	4.2	79.2
Others	0.6	0.0	8.3	87.5	4.2	100

Number of respondents: 1200.

prescribed or advised to use CHM by WM physicians and TCM doctors, respectively. The difference between this study and the Lin et al study in the rate of CHM usage may have occurred because the previous study only asked in general if the respondents had used CHM, whereas this study separated WM physicians into two categories and asked the respondents whether they had used CHM prescribed or recommended by WM physicians or TCM doctors. In Taiwan, WM physicians cannot prescribe CHM by themselves; however, they may refer patients to TCM doctors for TCM use. Another possible reason is that the present study did not include respondents who were over 69-years-old, and this might have affected the prevalence of CHM usage.

The percentages of all the respondents who received acupuncture from WM physicians or TCM doctors were 12.3% and 12.6%, respectively. Regarding moxibustion, the number of respondents who received the treatment from WM physicians (14.9%) was just slightly higher than the number who received the treatment from TCM doctors (14.1%). Similarly, WM physicians and TCM doctors also prescribed or advised 24.9% and 18.2% of the respondents, respectively, to use massage, while 12.3% and 10.7% of all the respondents received cupping from WM physicians and TCM doctors, respectively. In this study, WM physicians prescribed or advised the respondents to use moxibustion, massage, and cupping at higher rates than TCM doctors did. A previous study indicated that the senior WM physicians in Taiwan had committed to develop the integration of Chinese medicine with WM. Although the degree of such integration still has much to grow, the study showed that the WM

Table 6

The proportion of Chinese herbal medicine used in complementary and alternative medicine in different countries

Country	Percentage, %
Cambodia	44.5
Vietnam	42.9
Taiwan	37.7
South Korea	36.2
Thailand	34.6
Japan	31.1
Sweden	23.0
Australia	18.5

physicians in Taiwan are already not unfamiliar with TCM or CAM therapies.[27] Notably, the percentage of respondents who indicated the use of moxibustion (14.9%) received from or recommended by a physician was higher than that for acupuncture (12.3%) in this study. Although the acupuncture and moxibustion are charged together while applying for national health insurance coverage in the hospital,[28] many WM physicians do not clearly distinguish acupuncture from moxibustion when giving advice to patients. However, moxibustion therapy is used not only in hospitals but also by folk therapists. At the same time, moxibustion is also among the self-care methods that people can use by themselves at home.[29] Owing to its common use as a self-care method by people, some patients might mention the use of moxibustion first and then receive advice from their doctors regarding moxibustion therapy, and that might be one of the reasons that the proportion of respondents who reported using moxibustion was mildly higher than the proportion of respondents who reported using acupuncture therapy in this study.

In this study, 70.3% of respondents reported having used dietary supplements within the last year. Our results also showed that 44.8% and 19.9% of the respondents received a prescription or recommendation to use dietary supplements from WM physicians and TCM doctors, respectively. On the contrary, 19.8% of the respondents had used dietary supplements containing herbs without consulting TCM doctors in the previous year. Furthermore, the respondents were asked where they purchased CHM and dietary supplements, and 30% of them responded that they had purchased them through the internet. This finding indicates that a number of the respondents were using dietary supplements without professional advice.

Regarding self-help practices, walking and relaxation techniques were the practices most commonly used by the respondents (61.9% and 40.4%, respectively). Walking was also a common practice in other countries, such as in China,[30] Japan,[19] and Korea.[18] A previous study proved that walking could affect both physical fitness and serum lipids in a positive way.[31] Similarly, relaxation techniques were also reported as being among the commonly used self-help practices in other surveys.[17,24]

Based on the results of complications that the participants reported suffering due to CAM treatments, it can be concluded that TCM doctors and folk physiotherapists caused half of them; however, the total number of such cases was low (31 out of 1200). In addition, folk physiotherapists in Taiwan usually learn techniques by themselves and do not need to pass a national board examination to get a certificate, which can lead to instances of unqualified physiotherapists causing complications, although again the number of such cases in this study was small.[32,33] Massage, CHM, and chiropractic treatments were reported to cause almost 70% of the complications. Massage and chiropractic treatments can cause ecchymosis, pain, and dizziness,[34,35] while CHM can cause diarrhea, vomiting, and abdominal pain.[36] This can help to explain why most of the complications were related to musculoskeletal, gastrointestinal, and neurological problems. In previous studies, the major adverse effect of acupuncture was infection,[37] followed by subcutaneous bleeding and hematomas, and then discomfort or pain.[38] However, in this study, we found that acupuncture caused fewer complications than other types of CAM. The reason for this may have been that, in university, TCM doctors are required to learn not only the basic physiological anatomy of WM, which helps to enhance their knowledge, but also safe and clear practice guidelines. Moreover, in Taiwan, only TCM doctors or WM physicians who have attended a training course on acupuncture can perform acupuncture. They are required to have a certificate from the government. Furthermore, in Taiwan, practitioners have been using nonreusable (disposable) needles during acupuncture treatment to prevent infection.

This study did have some limitations. First, it was a web-based study; therefore, we included only participants who were aged 20 to 69 years, because the elderly who are >69-years-old may not use the internet frequently. At the same time, the elderly do have a greater tendency to use CAM than younger people; therefore, this study may have underestimated the overall prevalence of CAM utilization. The second limitation was that while the respondents may have had doubts or questions when they completed the questionnaire, since our survey was not conducted via face-to-face interviews, they could not ask the researchers about the meaning of specific questions, which may have resulted in choosing inappropriate answers.

In conclusion, regarding the utilization of CAM in Taiwan, this internet-based survey revealed that CHM, dietary supplements, and massage were the types of CAM most commonly prescribed or recommended by WM physicians and TCM doctors. However, a fairly high number of the respondents had used dietary supplements without consulting with WM physicians or TCM doctors; thus, warnings are necessary to ensure that such supplements are used safely. This study further showed that the number of complications due to acupuncture in Taiwan was small, which may be related to the adequate training in biomedical knowledge received by TCM doctors, as well as safe and clear practice guidelines.

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