



## The I-CAM-IR: Persian Translation, Cross-Cultural Adaptation and Revised Version of the I-CAM-Q

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### Abstract

Complementary and alternative medicine (CAM) has shown increasing acceptance, popularity, and use all around the world. The International Complementary and Alternative Medicine Questionnaire (I-CAM-Q) was developed to be a standard research instrument for achieving more reliable data and enabling researchers for comparing multiple studies on CAM use. This study aimed to provide a Persian translation of I-CAM-Q that also was adapted according to Iranian culture. The I-CAM-Q was translated and back-translated to Persian by a team of 2 translators and 2 traditional Persian medicine specialists. Then an internet-based specialist survey and an experts' panel using the DELPHI method were done to perform cross-cultural adaptation. The feasibility study of the Iranian version of I-CAM-Q (i.e., I-CAM-IR) was tested upon adult population, the final changes were done to I-CAM-IR and data were gathered from 301 hypertensive patients. The related specific words such as traditional Persian medicine and "Attar" (herbalist) were added to the questionnaire for a more precise local adaptation. Meanwhile, some structural changes were made in the first two pages of the original I-CAM-Q and the questions about disclosure were added to it. This questionnaire was easily accepted by most patients during the interview. Generally, 72.4% of our hypertensive participants used CAM but only 41.8% of them disclosed this to their physicians. I-CAM-Q is a standard questionnaire that needs to be adapted to non-English speaking countries. Generally, in this study the useage of CAM among people with hypertension was high. Therefore, it is emphasised that physicians should have adequate knowledge about it. Meanwhile, conducting multicentral researches in this field will provide the basis for accumulative data about CAM use in Iran.

**Keywords:** Complementary and alternative medicine; Persian medicine; Integrative medicine; Iran; International complementary and alternative medicine questionnaire (I-CAM-Q); Translation

### Introduction

Complementary and alternative medicine (CAM) is defined according to MeSH Database as "*Therapeutic practices which are not currently considered an integral part of conventional allopathic medical practice.*"

*Therapies are termed as Complementary when used in addition to conventional treatments and as Alternative when used instead of conventional treatment*" [1]. Furthermore, in some countries like Iran, which have a long honorable history of medicine, CAM is used

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interchangeably with “traditional medicine” [2].

It should be noted that CAM has experienced evolving processes over time, from more alternative attitudes in the past to integrative (i.e., a holistic patient-oriented therapeutic approach originating from both conventional and complementary options in a coordinated manner) ones, nowadays [3-5].

Scientific reports indicate increasing acceptance, popularity, and use of CAM. Its use appears to be increasing both in general population [6,7] and patients with specific diseases [8,9].

However, there is a wide range of variability regarding reports on this matter, although some differences are naturally expected. For example, the originating country and its tradition of medicine, and even different ethnic groups in each country are important factors. In addition, each cohort of patients with different chronic diseases is assumed to use CAM differently from each other.

Nevertheless, for achieving more reliable data and enabling researchers to compare multiple studies on CAM use, there is a list of issues that can be treated as methodological problems. For instance, CAM definition (besides its different examples) is one of the cornerstones. Also, the time frame (e.g., lifetime, the past 12 months, or recent 3 months) for asking about CAM use should be stated as another concern. Various ways of questioning, such as face-to-face, internet-based, and paper-pencil self-reported surveys, may also affect resulting data. Moreover, it seems that using open- or close-ended queries, and making a list consisting of the most popular possible answers, influences results. Therefore, a standardized questionnaire is needed [10-14].

The National Research Center in Complementary and Alternative Medicine (NAFKAM) of the University of Tromsø, and the Norwegian Research Council sponsored a workshop in 2006 on the challenges of CAM measurement. At the end of this workshop, the members designed the International Complementary and Alternative Medicine Questionnaire (I-CAM-Q), which was published in 2009 by Quandt et al. [15].

The I-CAM-Q has been increasingly used as an international tool for measuring CAM usage. It was employed in a wide range of studies on CAM use in different diseases (e.g., inflammatory bowel disease, cancer, a mixed population of chronic diseases, patients with genetically proven mitochondrial disorders, vasculitis, primary brain tumor, sleep disorders, and chronic hepatitis B [16-24]), on various populations of different demographic characteristics [14,25-29] and even in studies on more special subjects like vaccination skepticism [30].

However, there are still problems with its dissemination and therefore, the possibility comparing data on CAM usage between different countries. One of the

most important problems was its original language as English [31]. In addition, CAM in each country may have variants that are practiced by different practitioners.

Hence, several translations and cross-cultural adaptation studies have been done for different languages and countries, from Germany to Japan, Argentina, Korea, France, and Australia [32-37].

In Iran, there is no national survey on CAM use. Furthermore, some local studies show very different results on CAM use (52.5% to 76.6%) by using different questionnaires [38-44]. Therefore, it is necessary to develop a standardized survey tool for assessing CAM use (including traditional Persian medicine) in Iran.

After that, studies on CAM use in Iran can be checked for possible similarities and dissimilarities between different Iran's provinces and among various health conditions, and even will be extrapolated to the general population. It should be noted that Persian or Farsi is primarily spoken in several countries, including Afghanistan and Tajikistan [45]. Therefore, the resulted questionnaire (i.e., I-CAM-IR) can be used as a draft to be tested cross-culturally and revised for use in other Persian-speaking countries. Being an international tool (e.g., I-CAM-Q) allows researchers to compare Iran's status in CAM use to other countries all over the world.

This study aimed to provide a Persian translation of I-CAM-Q (i.e., I-CAM-IR) which also was adapted according to Iranian culture. Additionally, it was piloted on a sample population of patients with hypertension for their CAM use assessment.

## Material and Methods

### *Ethics*

After contacting the key author of the original I-CAM-Q via E-mail and obtaining permission to translate and adapt this questionnaire to Persian, a research proposal was written and the research committee of Fasa University of Medical Sciences approved it (approval number: IR.FUMS.REC.1395.161). The participants voluntarily enrolled in the study and their personal information was kept confidential. The respondents filled out paper forms under the supervision of the researcher (interviewer).

### *The study processes*

Figure 1 shows the process and different phases of this study.

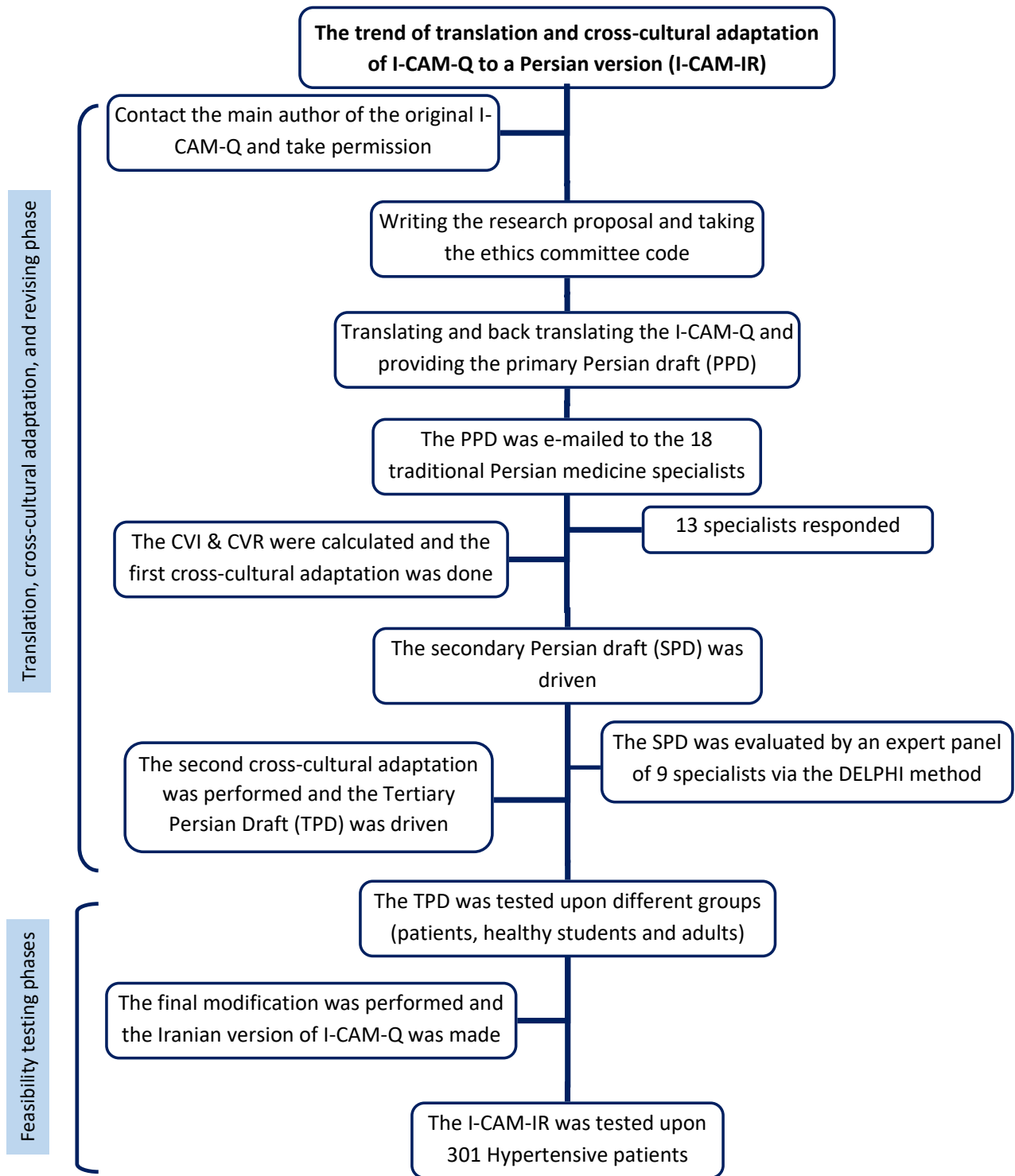
### *Translation (forward-backward)*

This questionnaire was translated according to the World Health Organization's standard protocol for forward-backward translation. [46] The original English version of I-CAM-Q was given to 3 independent

persons; one native English translator and 2 Persian medicine specialists. Their Persian translations were assessed and combined by a team of 2 traditional Persian specialists and this primary Persian draft (PPD) was back-translated to English by another English translator.

*Expert Committee*

Then this draft of I-CAM-Q was e-mailed to 18 specialists in traditional Persian medicine (TPM) to evaluate its inner validation scores (content validity ratio (CVR) and content validity index (CVI)) and also to



**Figure 1.** The process and different phases of this study.

share their points of view about the cross-cultural differences and necessary points related to making the questionnaire more practical for Iranian people. After gathering the opinion of 13 responders, the secondary Persian draft (SPD) was developed. Then this second draft was evaluated by a panel of 9 TPM specialists in a DELPHI method. In this phase, technical vocabulary and terminology were substituted for the more familiar words for the Persian speakers, plus the related specific words of our country in the field of traditional medicine were added to the questionnaire. For example, the word "Attar" which means a person who engaged in drug preparation and the sale of herbs, was added to the questionnaire. Finally, because it is useful to know about CAM users disclosure of CAM use to health care providers and there was no question about this matter in the original I-CAM-Q, like Japan [47], we added this query to the Iranian adapted I-CAM-Q. The final result of this expert panel was the tertiary Persian draft (TPD). Moreover, the impact scores of all items in the questionnaire was more than 1.5 and no item was omitted.

#### *Pre-testing and final revision*

This version of I-CAM-Q (TPD) was tested on different groups (patients, healthy students, and adults). Some problematic fields were detected and revised, and the final draft of I-CAM-Q that was adapted for Iran (I-CAM-IR) was created. For example; it was somehow difficult for a high percentage of the ordinary responders to differentiate between visiting a general practitioner for conventional or complementary treatment. On the other hand, researchers need to know which kind of CAM is used in their field of research and who is providing this care. The inquiries that are related to these questions are not completely and clearly categorized in the original I-CAM-Q. For instance, if someone's answer to the question on page 2: "Have you received any of the following complementary treatment from a physician in the last 12 months?" is "No"; we are not sure whether her/him has received them from anybody else. Or if someone has received herbs or manipulation, we do not know from whom, because in Iran there are different sources for providing these kinds of care. Thus, we changed the order slightly and the way of asking the questions on the first two pages of the I-CAM-Q (Supplementary File 1). It should be noted that the reliability of this instrument was measured using Cronbach's alpha coefficient and test-retest reliability. Cronbach's alpha of the instrument was 0.96, which indicates an appropriate measure.

#### *Feasibility testing*

In the end, we added one page about demographic data including age, gender, income level, educational

status, to be familiar with CAM, comorbidities, disease duration, living place, household members, etc., (supplementary file 1) to the I-CAM-IR and tested it on 301 hypertensive patients of Fasa. Fasa is a city and capital of Fasa County, Fars Province, Iran. It has a population of more than 188,000 people and is composed of different ethnic groups of Persian, Turk and Arab [43].

#### *Sample size, recruiting, and statistical evaluation*

The sample size was calculated by this formula:  $n = z(1 - \alpha/2)^2 \times P \times (1 - P) / d^2$ , for  $\alpha = 0.05$ ,  $\beta = 85\%$ ,  $P = 26.9\%$  [48] and  $d = 0.05$ . The estimated sample size was 302. This study was done in 3 outpatient clinics in Fasa. Participants were adult males and females with hypertension, who voluntarily and after taking consent, were sequentially recruited in the study.

After collecting the questionnaires, all the data were transferred and entered using SPSS software (Ver. 22) and demographic, descriptive, and analytic data were calculated by frequency, t-test, cross-tab (chi-squared), and logistic regression.

## **Results**

#### *The results of the I-CAM-Q adaptation and validation*

In the first section of I-CAM-Q, the questions about "visiting health care providers" were replaced with questions about "receiving different modalities of CAM therapies". In the second section of I-CAM-Q, the source/s of health care providers of the used CAM therapies were asked. The questions about "Qigong" were deleted from the main questions of the checklist because of its low SVR and CVI scores in the expert panel (the amount of  $CVR < 0.54$  &  $CVI < 0.8$  considered as not accepted) [49]. Instead, some other specified options such as "traditional Persian medicine", "Attar", "cupping", "phlebotomy", "leech therapy" and "going to a religious place" were added to the main questions, because of their importance to Iranian adapted version of the I-CAM-Q. (Supplementary file 1) The CVRs and CVIs of the second draft of Persian adapted I-CAM-Q (SPD) are shown in table 1.

#### *The results of CAM use in patients with hypertension*

##### **Descriptive data**

##### **Demographic information**

A total of 301 individuals participated in this study. Of them, 73.4% were females and 26.6% were males. About 21% of them were born in urban and 79% in rural areas. They were between 27 and 95 years old with an average age of  $61 \pm 13.09$  years, and the

mean of their disease duration was  $7 \pm 5.57$  years. One hundred and six (35.2%) of the respondents had some co-morbidity/ies: 19.3% diabetes, 10.3% heart diseases, 8.0% renal diseases, 2.3% hyperlipidemia and 2.0% some liver diseases. The household members were one to thirteen with an average of  $3.8 \pm 1.8$ . The educational status of the respondents was as follows: 45.4% illiterate, 39.0% less than diploma, and 15.6% had a diploma or an academic degree. The monthly income levels of the participants were as follows: 62.0% low income (less than 2 times of

the minimum monthly income determined by the labor organization. It is less than 300 US\$ per month), 24.6% moderate income (2-4 times more than the minimum monthly income), and 13.4% high income (more than 4 times of the minimum monthly income). Almost two thirds (61.5%) of the participants had some previous knowledge about CAM and the source of their information were as follows: radio and television (36.5%), family and relatives (29.6 %), internet (21.9 %), reading books (5.6 %) and attending some special course (2.0 %).

**Table 1.** The content validity ratio (CVR) and content validity index (CVI) of the second draft of the Persian adaptation of I-CAM-Q upon 13 experts' opinions

Sections	CVR (%)	CVI (%)	Sections	CVR (%)	CVI (%)
<i>Section 1:</i>			Homeopath	0.69	0.89
Traditional Persian medicine	1	0.96	Yoga trainer	0.69	0.89
Manipulation	1	0.92	Energy therapist	0.54	0.89
Homeopathy	0.85	0.91	Religious Person	0.85	0.91
Acupuncture	0.85	0.91	Others (by self or relatives)	0.54	0.87
Herbs/Herbal therapy	1	0.96	<i>Section 3:</i>		
Dry-Cupping	1	0.96	Herbs/Herbal medicine	1	0.96
Wet-Cupping/ Phlebotomy, ...	1	0.96	Vitamins/Minerals	0.69	0.91
Chiropractic	0.54	0.87	Homeopathic remedies	0.69	0.89
Biotherapy (Leech/Maggot/ Bee, ...)	1	0.92	Other supplements	0.69	0.89
Vitamins/Supplements	0.69	0.96	<i>Section 4:</i>		
Yoga	0.85	0.91	Meditation	0.54	0.87
Qigong	0.23	0.68	Yoga	0.85	0.91
Tai chi	0.54	0.87	Qigong	0.23	0.68
Spiritual healing	1	0.92	Tai chi	0.54	0.87
Energy therapy	0.69	0.91	Relaxation techniques	0.85	0.91
Other (please specify):	0.69	0.86	Visualization	0.69	0.89
<i>Section 2:</i>			Attending traditional healing ceremony	0.69	0.89
General practitioner or other physicians	0.85	0.91	Praying for own health	0.54	0.89
Persian medicine Specialist	1	0.96	Going to a religious place	0.54	0.89
Attar or herbalist	0.85	0.91	Energy therapy	0.54	0.89
Acupuncturist	0.69	0.89	Others (please specify)	0.69	0.89
Chiropractor	0.54	0.87			

*CAM use and disclosure rate*

The incidence of CAM use in the past 12 months and the details related to the sources of providers, types of

CAM that are used, the amount of their helpfulness, and the disclosure rate of each modality are shown in table 2. Totally, 218 (72.4%) of the participants have

used some kind of CAM (except self-care) in the past 12 months. Meanwhile, the types of CAM providers and data related to self-care usage are shown in tables 3 and 4. About 80% of the responders practiced some kind of self-help technique and the most commonly used self-help practices were praying (72.8%), going to a religious place (16.3%), and visualization (4.7%). Only 39 (13%) of the participants did not use any CAM or self-help methods.

**Herb use**

In this study, 172 (57.1%) responders used one or more kinds of 57 different herbs. The most consumed herbs (top 20) are summarized in table 5. The less common herbs that were consumed more than 0.5% included: *Alyssum sp.*, *Cydonia oblonga*, *Cordia myxa*, *Plantago major*, *Berberis sp.*, alhagi, *Crocus sativus*, *Ferula assa-foetida*, *Allium schoenoprasum*, *Enneapogon sp.*, *Apium graveolens*, *Elettaria cardamomum*, *Salix aegyptiaca*, *Salvia hispanica*, *Carum carvi*, *Alcea sp.* and *Terminalia chebula*.

**Analytic data**

In this section, we analyze all data to detect any probable relationship between respondents' personal characteristics and the total amount of CAM use. Tables 6 and 7 are presenting the more important outcomes.

**Bivariate analysis**

The effect of gender, age, place of birth, disease duration, income level, the existence of co-morbidity/ies, and previous knowledge about CAM was tested on participants' attitudes toward CAM use and self-help activities. The results are shown in table 6. As shown in table 6; the CAM users have significantly less disease duration compare to the non-users (6.3±4.9 years compare to 8.7±6.7 years, p=0.006) and individuals who have previous information about CAM significantly use it more compare to whom did not know CAM types (85.9% compare to 53.1%, p<0.001)

**Multivariate analysis**

We assessed the potential impact of various factors such as age, gender, disease duration, educational status, etc. on "CAM use" by logistic regression test. Having prior knowledge of CAM was the most important correlation factor in using CAM, and the other results are summarized in table 7.

**Discussion**

According to the results, it seems that the I-CAM-Q and its Persian adapted questionnaire (I-CAM-IR) have sufficient reliability and validity. Also, this study showed a high prevalence of CAM use amongst patients with hypertension in Iran.

**Table 2.** The details of CAM use among the participants (Sorted descending)

Item	Usage No (%)	The main reason (%)			Helpfulness (%)			Disclosure (%)		
		For an acute disease	For a Chronic disease	To improve wellbeing	Very	Some what	Not at all	Don't know	Yes	No
Total	218 (72.4)	23.7	39.6	36.7	17.5	52.9	6.0	23.6	41.8	58.2
Herbs	172 (57.1)	25.6	50.6	23.8	12.9	70.6	6.5	10.0	48.5	51.5
Spiritual therapy	130 (43.2)	2.4	12.8	84.8	10.9	26.6	3.1	59.4	0.8	99.2
Vitamins and supplements	30 (10.0)	7.1	67.9	25.0	17.2	55.2	-	27.6	85.7	14.3
Traditional Persian Medicine	29 (9.6)	17.2	75.9	6.9	14.3	71.4	14.3	-	89.3	10.7
Massage	29 (9.6)	58.6	41.4	-	44.8	48.3	3.4	3.4	14.3	85.7
Acupuncture	20 (6.6)	65	35	-	15.0	70.0	5.0	10.0	90.0	10.0
Dry-Cupping	14 (4.7)	85.8	7.1	7.1	38.5	61.5	-	-	76.9	23.1
Wet cupping / phlebotomy	12 (4.0)	33.3	50.0	16.7	33.3	25.1	33.3	8.3	66.7	33.3
Biotherapy	11 (3.7)	54.5	45.5	-	36.4	45.5	18.2	-	81.8	18.2
Energy therapy	5 (1.7)	20	40	40	80	20	-	-	60.0	40.0
Yoga	3 (1.0)	-	33.3	66.7	100	-	-	-	100	-
Homeopathy	3 (1.0)	100	-	-	66.7	33.3	-	-	100	-
Tai-chi	0	-	-	-	-	-	-	-	-	-

**Table 3.** The types of CAM providers

Item	CAM providers (%)									
	G.P <sup>1</sup>	P.S <sup>2</sup>	Atr <sup>3</sup>	Acu. <sup>4</sup>	Chr. <sup>5</sup>	Hom. <sup>6</sup>	Yog. <sup>7</sup>	En. <sup>8</sup>	R.P <sup>9</sup>	Oth. <sup>10</sup>
Traditional Persian Medicine	34.5	44.8	13.8	-	-	-	-	-	-	6.9
Homeopathy	-	-	33.3	-	-	-	-	-	-	66.7
Acupuncture	4.8	33.3	-	38.1	-	-	-	-	-	23.8
Wet cupping/ phlebotomy	53.8	15.4	7.7	-	-	-	-	-	-	23.1
Dry-Cupping	35.7	21.4	-	-	-	-	-	-	-	42.9
Massage	-	3.9	-	-	-	-	-	3.9	-	92.2
Biotherapy	18.2	54.5	9.1	9.1	-	-	-	-	-	9.1
Herbs	1.9	7.8	43.7	0.5	-	-	-	-	-	46.1
Vitamins and supplements	96.4	-	-	-	-	-	-	-	-	3.6
Yoga	-	-	-	-	-	-	100	-	-	-
Tai-chi	-	-	-	-	-	-	-	-	-	-
Energy therapy	-	-	-	-	-	-	-	50.0	10.0	40.0
Spiritual therapy	0.9	0.9	-	-	-	-	-	-	10.9	87.3

1 G.P: General Practitioner, 2 P.S: Persian medicine Specialist, 3 Atr: Attar, 4 Acu: Accupuncturist, 5 Chr: Chiropractor, 6 Hom: Homeopathy, 7 Yg: Yoga trainer, 8 EN: Energy therapist, 9 R.P: Religious Person, 10 Oth: Others (by self or relatives)

**Table 4.** The details of self-help use among the participants. (Sorted descending)

Item	Usage No (%)	The main reason (%)			Helpfulness (%)				Disclosure (%)	
		For an acute disease	For a Chronic disease	To improve wellbeing	Very	Some-what	Not at all	Don't know	Yes	No
Total	240 (79.7)	6.1	21.0	72.9	24.8	30.5	3.4	41.3	4.8	95.2
Praying for own health	219 (72.8)	4.4	20.9	74.7	22.0	28.9	3.7	45.4	3.8	96.2
Going to a religious place	49 (16.3)	9.3	16.3	74.4	30.4	26.1	2.2	41.3	2.2	97.8
Visualization	14 (4.7)	21.4	21.4	57.2	35.7	42.9	7.1	14.3	7.7	92.3
Attending traditional healing ceremony	6 (2.0)	-	50	50	16.7	50	-	33.3	-	100
Meditation	3 (1.0)	33.3	-	66.7	33.3	66.7	-	-	33.3	66.7
Relaxation techniques	3 (1.0)	-	33.3	66.7	-	100	-	-	-	100
Energy therapy	3 (1.0)	-	66.7	33.3	66.7	33.3	-	-	66.7	33.3
Yoga	2 (0.66)	-	-	100	100	-	-	-	50	50
Tai-chi	-	-	-	-	-	-	-	-	-	-

**Table 5.** The top 20 herbs that the studied patients used (sorted descending)

Herb		Usage	
Scientific name	Persian name	No	%
<i>Zataria multiflora</i> Boiss.	<i>Avishan</i>	73	14.72
<i>Echium amoenum</i> Fisch. & C.A.Mey.	<i>Gol gav zaban</i>	49	9.88
<i>Zingiber officinale</i> Roscoe	<i>Zanjbil</i>	42	8.47
<i>Matricaria chamomilla</i> L.	<i>Babooneh</i>	42	8.47
<i>Camellia sinensis</i> (L.) Kuntze	<i>Chay sabz</i>	35	7.06
<i>Cinnamomum verum</i> J.Presl	<i>Darchin</i>	22	4.43
<i>Stachys lavandulifolia</i> Vahl	<i>Chay koohi</i>	16	3.23
<i>Fumaria officinalis</i> L.	<i>Shah tareh</i>	14	2.82
<i>Rosa damascene</i> Herrm.	<i>Gol sorkh</i>	14	2.82
<i>Lavandula angustifolia</i> L.	<i>Ostokhodus</i>	14	2.82
<i>Glycyrrhiza glabra</i> L.	<i>Shirin bayan</i>	14	2.82
<i>Salvia officinalis</i> L.	<i>Maryam goli</i>	12	2.42
<i>Mentha spicata</i> L.	<i>Naana</i>	11	2.22
<i>Foeniculum vulgare</i> Mill.	<i>Raziyaneh</i>	10	2.02
<i>Ficus carica</i> L.	<i>Anjir</i>	10	2.02
<i>Valeriana officinalis</i> L.	<i>Sonbolotib</i>	9	1.81
<i>Prangos ferulacea</i> (L.) Lindl.	<i>Javshir</i>	9	1.81
<i>Citrus aurantium</i> L.	<i>Naranj</i>	7	1.41
<i>Anethum graveolens</i> L.	<i>Shevid</i>	6	1.21
<i>Descurainia sophia</i> (L.) Webb ex Prantl	<i>Khakshir</i>	6	1.21
Others (37 herbs)		81	16.33

However, in I-CAM-IR, changes have been made especially in the first two sections of I-CAM-Q. This questionnaire, in addition to all the data contained in the original I-CAM-Q, collects some more information such as the exact source of CAM providers as well as usage-related disclosures.

In addition, I-CAM-IR collects specific information that is important in this region (Iran). For example, some questions about specific manipulation techniques and biotherapy that are very common in Iran are asked, such as dry and wet cupping, leech therapy, and traditional phlebotomy (Fasd). Also, some questions about going to a religious place or visiting a religious person and Attar were added to the original I-CAM-Q.

This study found that 218 out of 310 hypertensive patients (72.4%) had used a form of CAM (except praying) within the last 12 months. This rate had a higher proportion compared to the Norwegian study (49%), but similar to the Sweden and German studies which reported: 71% and 78%, respectively [48,50,51].

In this study, about 57% of the responders used one or more kinds of 57 different herbs. The most consumed herbs (top 3) were *Zataria multiflora*, *Echium amoenum*, and *Zingiber officinale*. These findings are very important because of the potential interaction between herbs and conventional therapies [49-52]. Therefore, physicians' attention to the consumption of medicinal herbs by patients and asking them in this regard is very important.

Any kinds of self-help techniques were used by about 80% of the responders and the most commonly used self-help practices were praying (72.8%), going to a religious place (16.3%), and visualization (4.7%). This revealed the important role of mind-body practices and their potential role in people's health. Also, in this study, like Esteban et al. and Eardley et al. [52,53], both the participants and the expert group connect "spiritual healing" with religious aspects.

Some of the CAM modalities (e.g., Tai Chi, yoga, and homeopathy) were not used by any person or used by about 1 percent of the studied population. It is not uncommon for participants to be unaware of some CAM

**Table 6.** Comparing some demographic and background data in the study group

Item	Total CAM use (%)		P-Value	Self-Help (%)		P-Value
	Yes	No		Yes	No	
Gender						
Female	70.0%	30.0%	0.147	80.9%	19.1%	0.517
Male	78.8%	21.2%		77.5%	22.5%	
Age (year)	60.0±12.7	63.0±14.0	0.157	61.1±12.7	62.1±14.5	0.579



Place of birth						
Rural	70.8%	29.2%	0.261	81.5%	18.5%	0.854
Urban	78.7%	21.3%		80.3%	19.7%	
Disease duration (year)	6.3±4.9	8.7±6.7	0.006	6.9±5.5	7.1±6.1	0.830
Income level						
Low income	74.7%	25.3%	0.384	83.1%	16.9%	0.637
Moderate income	72.7%	27.3%		75.8%	24.2%	
High income	88.7%	11.3%		83.3%	16.7%	
To have some previous information about CAM						
Yes	85.9%	14.1%	0.000	88.0%	12.0%	0.000
No	51.3%	49.7%		66.7%	33.3%	
Educational level						
Illiterate	70.1%	29.9%	0.15	78.4%	21.6%	0.788
Less than diploma	73.0%	27.0%		80.9%	19.1%	
Diploma or higher	84.8%	15.2%		82.6%	17.4%	
To have Co-morbidities						
Yes	74.5%	25.5%	0.591	63.8%	68.9%	0.549
No	71.3%	28.7%		36.2%	31.1%	

**Table 7.** The logistic regression table of possible correlation factors in CAM usage

Item	S.E.	C.I.	Odds Ratio	P value
Gender	0.55	0.45-3.94	1.27	0.604
Age	0.027	0.97-1.08	1.03	0.328
Disease duration (year)	0.057	0.76-0.97	0.867	0.012
To have some previous information about CAM	0.613	3.27-36.07	10.855	<0.001
To have some comorbidity	0.585	0.61-6.04	1.919	0.265
Income level	0.479	0.45-2.92	1.140	0.785
Educational Level	0.577	0.26-2.51	0.811	0.717

techniques such as Esteban et al. have mentioned in their study [52]. Therefore, it seems that awareness of these options can help patients to use more appropriate CAM treatments for their specific conditions.

The overall disclosure rate in this study was 41.2% for CAM and 4.8% for self-help use. The low disclosing rate has been found in many studies [47,54,55] and the main reasons for that are: the patients do not know about CAM's importance, they are afraid of being ridiculed for it, and the practitioners do not believe in CAM and do not ask patients about it, and there is not adequate time for a complete history taking.

On the other hand, the relationship between CAM use and conventional medicine should be assessed. In fact, it is necessitated for health providers to understand how the use of conventional medications is affected by CAM use. For example, do patients arbitrarily quit conventional therapies? Or, do they modify the recommended time for their use or reduce the prescribed dose/s due to CAM use? Or, is there any synergism or contraindication between their CAM use and conventional therapies?

There are many studies on the rate of disclosure among a wide variety of patient populations from different countries [56-58]. Effective communication between patients and physicians is a very important matter. In some cases, there are life-threatening interactions between CAM modalities and conventional medicines [59].

Therefore, it seems appropriate and necessary to add a question about disclosing the use of CAM by individuals.

### *Study strengths and limitations*

We added a question about CAM usage disclosure to the original I-CAM-Q, which seemed to make it a more complete questionnaire.

We did not assess the psychometric properties of the I-CAM-IR questionnaire. This should be done and then, possible required modifications should be implemented. Also, the generalizability of the current findings to other regions of Iran cannot be claimed without a doubt. However, Fasa is a relatively proper representative of Iran's status on CAM use. This is due to the balance of its population regarding different ethnic groups, dialects, and socioeconomic statuses, too.

Cross-sectional studies suffer from information and recall biases. Our study is not an exception. Remembering the frequency and reasons for CAM use, their usefulness, etc. during the past year may not be easy. In addition, in this study, only the content validity of the questionnaire has been examined and the construct validity of the questionnaire has not been examined, which is recommended to be done in future studies.

### *Implications and suggestions for future research*

It seems that I-CAM-Q may be considered a somewhat long survey, especially for older adults. This can cause missing data to be more than the normal and accepted threshold [32,60]. Therefore, developing summarized and short versions of I-CAM-Q should be kept in mind. It is suggested that the results of the usage of different CAM kinds be classified according to the main categories of CAM (for example: energy medicines, mind-body medicines, body-based medicines, biological-based medicines, and alternative medicines) [61]. This can make results easier to interpret and compare with other studies.

Also, making a mobile application for I-CAM-Q may have its benefits: using drop-lists for answering questions can make the form easier and faster to be completed. Correspondingly, if there were any missing data, the application can detect it and prevent the next question/page to be shown. This paperless way may be a good eco-friendly strategy, too. Finally, the data entry stage (data transferring from paper to statistical software) can be bypassed. Therefore, interim analysis can be facilitated.

### **Conflict of Interests**

None.

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