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Perspectives of physicians on medical acupuncture in Lebanon: a preliminary study

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Abstract

Objectives: There are no regulations governing the practice of acupuncture in Lebanon as it is not yet registered as a profession. To our knowledge, no studies have ever been conducted in Lebanon regarding the practice of acupuncture. The purpose of this preliminary study was to explore the knowledge of Lebanese physicians about acupuncture, with the intent of conducting larger scale studies and developing strategies aimed at refining this knowledge in the future, and the ultimate goal of setting guidelines for acupuncture practice in Lebanon.

Methods: An online survey looking into physicians' knowledge of acupuncture, its mechanisms of action, effectiveness, indications and safety, and physicians' understanding of its concepts, was circulated to 4651 physicians registered in the Lebanese orders of physicians.

Results: One hundred forty-nine physicians (3.2%) completed the survey. Most study respondents stated that they were unaware of the difference between traditional Chinese acupuncture (TCA) and Western medical acupuncture (WMA). Overall, 30% of respondents had personally used and/or referred patients for acupuncture. Physicians who had personally tried acupuncture were more likely to refer patients for acupuncture ($p < 0.001$). Those who know the difference between WMA and TCA were more likely to have tried or referred for acupuncture ($p = 0.004$). 72% believed that acupuncture and other integrative medicine modules should be introduced in medical curricula in Lebanon.

Conclusion: Interest in acupuncture among physicians in Lebanon appears to be limited, based on the low response rate. Among respondents, physicians who had tried or referred patients for acupuncture appeared to be more well informed about different acupuncture styles.

Keywords

acupuncture, Lebanon, survey, physician, medical education, training

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Introduction

Acupuncture is one of the main traditional Chinese medicine (TCM) modalities. It consists of inserting fine filiform needles at targeted locations in the body to produce local and systemic effects.

In the West, acupuncture reports had been anecdotal until the discovery of acupuncture-induced endorphin release in 1977.[1] Since then, trials have established its effectiveness in numerous conditions including but not limited to back pain, neck pain, migraine, tension headache, post-operative pain,

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and nausea.[2] This evolving research led to the development of what is known as Western medical acupuncture (WMA), which is defined as an adaptation of Chinese acupuncture using current knowledge of anatomy, physiology, and the principles of evidence-based medicine.[3]

Acupuncture is one of the most widely used complementary and alternative medicine (CAM) modalities by patients.[4,5] Many studies reflect an increasing interest in its study and practice among healthcare professionals and medical students.[6,7,8] Some of the reasons for its increasing popularity are the limitations of conventional medicine to address some conditions, its relative safety, patients' preferences, and belief of healthcare professionals in its efficacy based on the established evidence.[8] Some physicians even perceive acupuncture as a conventional medicine accompaniment, offering treatments for the potential side effects of medications and medical procedures.[9] Even though these healthcare practitioners realize the importance of knowledge and research in acupuncture, the lack of knowledge expressed by them is noticeable.[6,7] Furthermore, some studies reveal that the motivation of some healthcare professionals for the acceptance of acupuncture is based on their own beliefs[10] and personal knowledge and experience[11,12,13,14] rather than genuine knowledge of scientific evidence.

Studies suggest that increased acupuncture knowledge and training among healthcare practitioners could reinforce the alliance between mainstream medicine and acupuncture, while improving the physicians' disposition to recommend it.[15,16] These studies identified integration of acupuncture into academic curricula as one of the major factors that could facilitate the cooperation between conventional healthcare professionals and acupuncture practitioners.[17] We are not aware of studies assessing the knowledge of medical doctors about the mechanisms of action, effectiveness, safety considerations, and the current state of scientific evidence of acupuncture in the Arab world. CAM in general is not widely taught in medical schools in Arab countries, which makes potential information resources for doctors quite numerous and not unified, and hence can generate different attitudes according to the source of knowledge acquisition. It is obviously necessary to carry out further investigations in Mediterranean countries, given the scarcity of data coming from them.

In Lebanon, there are many acupuncture practitioners; a minority are medical doctors, some are physical therapists, and some are TCM practitioners, but many do not have any medical background. Unfortunately, there are no regulations by law monitoring the practice of acupuncture in Lebanon, as it is not yet recognized as a profession. To our knowledge, no studies have ever been conducted in Lebanon regarding the practice of acupuncture. Exploring the knowledge of Lebanese physicians about acupuncture and then developing strategies aiming at refining this knowledge based on the WMA framework could bring about a paradigm shift in Lebanese physicians' perspectives on acupuncture, and may open doors to the growth of this nonconventional modality within the sphere of conventional medicine, with the ultimate goal of setting regulations and guidelines for acupuncture practice in Lebanon.

Methods

The study took the form of an online survey. It was conducted between August and September 2018 among physicians registered at the Lebanese Order of Physicians (LOP) in Beirut and Tripoli.

Primary objectives

1. To study the knowledge of Lebanese physicians about WMA, including its proposed mechanisms of action, safety, effectiveness, and indications;
2. To study the attitudes of physicians toward acupuncture in Lebanon;
3. To study the practice of Lebanese physicians with respect to acupuncture referrals, self-use of acupuncture, and patient education.

Secondary objectives

1. To study the influence of physicians' knowledge of acupuncture on their attitudes toward acupuncture and their practice regarding patient referral or self-use of acupuncture;
2. To study the influence of other variables (demographics, physicians' training, specialty, and others) on the knowledge and attitudes of Lebanese physicians toward medical acupuncture;
3. To assess physicians' views on acupuncture practice in Lebanon.

Inclusion criteria

All physicians registered in the LOP in Beirut and Tripoli.

Exclusion criteria

Physicians working or training in specialties with no patient contact (radiology, pathology, and laboratory medicine) or with no e-mail address registered in the LOP.

Sampling process and data collection

A total of 4651 physicians had registered e-mails in the two LOPs (3693 at the LOP of Beirut and 958 at the LOP of Tripoli), according to the inclusion and exclusion criteria. The survey questionnaire was sent online using LimeSurvey.

An e-mail reminder was automatically sent every week to those who received the invitation but had not completed the questionnaire, for a total of three reminders.

Study instrument

We developed a 23-item, self-administered, electronic survey including single-choice, multiple-choice, and open-ended questions. It was sent in two languages (English and French).

The questions covered four aspects:

1. Physicians' knowledge of acupuncture mechanisms of action, effectiveness, indications, and safety;
2. Physicians' understanding and views of the WMA concept versus the traditional Chinese acupuncture (TCA) concept;
3. Physicians' attitudes toward acupuncture;
4. Patterns of practice regarding acupuncture referrals and self-use of acupuncture.

We are not aware of any available questionnaire assessing such specific knowledge aspects of acupuncture, and assessing physicians' understanding of the WMA concept. Our questionnaire was written by a family doctor specialized in acupuncture, and expert in WMA, and pilot testing was done on 10 physicians before finalizing the questionnaire, to ensure face validity.

Ethics approval and informed consent

This study was approved by the institutional review board (IRB) of the American University of Beirut. Electronic consent was obtained from participants.

Statistical analysis

Statistical Package for the Social Sciences (SPSS) version 18 software was used for data entry and statistical analysis. Data were mostly descriptive in nature, that is, percentages of population. Bivariate and multivariate analyses were conducted to assess factors that might contribute to differences in attitudes and perceived knowledge among participants. For bivariate analyses, the chi-square test was used for categorical variables and t test for continuous variables. Findings were deemed statistically significant at $p < 0.05$. The decision to make the comparison between physicians who had tried and/or referred patients for acupuncture and those who had neither tried nor referred patients for acupuncture was made a priori, before seeing the results.

Results

A total of 149 respondents (3.2% of physicians with registered e-mails in the two LOPs) completed the survey. Ninety-eight percent of study respondents knew that acupuncture is a procedure that consists of stimulating specific locations on the skin by fine needle puncture, which reflects the fact that only a small minority of respondents did not actually have any knowledge about it. Eighty-four percent indicated that they did not know the difference between TCA and WMA.

Sixty-five percent of respondents believed that there is evidence of effectiveness for acupuncture in many conditions, whereas 20% believed that acupuncture's effects have no explanation in conventional medicine, and 15% believed that acupuncture has no significant effects beyond the placebo effect.

When asked about conditions for which acupuncture is deemed effective according to available evidence, most study participants believed acupuncture is effective for fibromyalgia (72%), tension and migraine headaches (67% and 61% of respondents, respectively), and back pain and neck pain without radiculopathy (60% and 53%, respectively). A lower proportion considered acupuncture effective for back pain and neck pain with radiculopathy (44% and 36%, respectively) and an even lower proportion believed acupuncture to be effective for morning sickness (35%) and chemotherapy-induced nausea (28%).

When asked about acupuncture mechanisms of action, 34% reported not knowing how acupuncture works, and 30% believed that it "restores a smooth flow of energy in the meridians of the body" (reflecting TCM theory). The rest believed that acupuncture exerts its effects through release of endorphins in the central nervous system, through the gate control theory via segmental analgesia, through local anti-inflammatory effects, or through limbic system stimulation. Most respondents thought that they had acquired their knowledge through internet reading and social media, and only a minority from formal training. Seventy percent of physicians did not consider themselves to possess enough knowledge to answer their patients' questions about acupuncture. Fifty-seven percent were interested in learning more about acupuncture, and 23% had previously referred a patient for an acupuncture treatment, with the conditions most commonly referred for being migraine headache, fibromyalgia, back pain and neck pain.

Fifteen percent had personally tried acupuncture as a treatment, and overall 30% of respondents had personally used and/or referred patients for acupuncture. Seventy-six percent disclosed that they would advise their patients to have acupuncture in the case that they had a condition that is known to respond, and 80% would rather refer their patients at later stages of their illnesses to try acupuncture as a last resort. Reported physicians' barriers for acupuncture referrals included safety concerns, cost, time consumption compared to drug therapies, and deficient physician knowledge. Seventy-two percent of respondents believed that acupuncture and other integrative medicine content

Table 1. Demographic and professional characteristics affecting usual practices among physicians regarding self-use or referrals for acupuncture.

Factors	Physicians who had personally tried and/or referred patients for acupuncture	Physicians who had neither personally tried nor referred patients for acupuncture	p value	Total
N (%)	44 (29.5)	105 (70.5)	–	149 (100)
Age (years)			0.016	
25–35	15 (19.5%)	62 (80.5%)		77
36–50	16 (36.4%)	28 (63.6%)		44
>51	12 (46.2%)	14 (53.8%)		26
Gender			0.665	
Male	26 (30.9%)	58 (69.1%)		84
Female	18 (27.7%)	47 (72.3%)		65
Specialty			0.082	
Primary care[a]	15 (30.6%)	34 (69.4%)		49
Specialties involved in pain management[b]	12 (46.2%)	14 (53.8%)		26
Others	17 (23.0%)	57 (77.0%)		74
Country of medical training			0.345	
Lebanon	34 (27.9%)	88 (72.1%)		122
Countries other than Lebanon	10 (37.0%)	17 (63.0%)		27
Country of post-graduate training			0.395	
Lebanon	27 (27.3%)	72 (72.7%)		99
Countries other than Lebanon	17 (34.0%)	33 (66.0%)		50

[a]General medicine, family medicine, pediatrics, and obstetrics/gynecology.
[b]Neurology, neurosurgery, orthopedic surgery, anesthesiology, and pain medicine.

should be introduced in medical curricula in Lebanon, and 51% believed that acupuncture practice should be restricted to medical doctors. Demographic and professional characteristics of the physicians as well as their knowledge of acupuncture were tested for associations with their practices regarding self-use or referral for acupuncture. The results are shown in Tables 1 and 2.

Discussion

Our results suggest that most survey respondents had a fairly correct understanding of basic acupuncture concepts; however, only a minority had acquired this knowledge from reliable professional resources. This is in line with our finding that most respondents believed that acupuncture and other integrative medicine content should be introduced in medical curricula in Lebanon. In fact, while there is little information about acupuncture teaching in medical schools worldwide, it appears that most doctors' training has been offered in contexts outside universities.[18] To our knowledge, there are no available data on acupuncture teaching in the Arab world.

In Lebanon, the first academic initiative in acupuncture education was undertaken in 2011 by Saint-Joseph University, which organized a university program in Chinese acupuncture, in cooperation with Tianjin University in China. The course was solely based on TCM theory and did not include WMA theory, although the course's target audience consisted of medical doctors and physical therapists. In 2014, the American University of Beirut Medical Center established a WMA clinic, the service being provided by a family doctor trained in WMA, which was the first initiative of its kind among academic healthcare centers in Lebanon. Among all patients treated in the clinic from 2014 until 2019, 20% were themselves physicians of different specialties. Fifteen percent of our study respondents reported having personally tried acupuncture as a treatment. We are not aware of published data showing the

Table 2. Cognitive factors affecting usual practices among physicians regarding self-use or referrals for acupuncture.

Factors	Physicians who had personally tried and/or referred patients for acupuncture	Physicians who had neither personally tried nor referred patients for acupuncture	p value	Total
N (%)	44 (29.5)	105 (70.5)	–	149 (100)
Knows the difference between TCA and WMA			0.004	
Yes	13 (54.2%)	11 (45.8%)		24
No	31 (24.8%)	94 (75.2%)		125
Has a correct perception of the WMA concept			0.844	
Yes	32 (29.1%)	78 (70.9%)		110
No	12 (30.8%)	27 (69.2%)		39
Believes that according to conventional medicine, there is evidence of effectiveness for acupuncture in many conditions			0.610	
Yes	30 (30.9%)	67 (69.1%)		97
No	14 (26.9%)	38 (73.1%)		52
Believes has enough knowledge to answer patients' questions about acupuncture			0.003	
Yes	21 (46.7%)	24 (53.3%)		45
No	23 (22.1%)	81 (77.9%)		104
Would advise patients to have acupuncture if they have a condition that is known to respond			0.005	
Yes	40 (35.4%)	73 (64.6%)		113
No	4 (11.1%)	32 (88.9%)		36
Believes that acupuncture and IM should be introduced in medical school			0.099	
Yes	36 (33.3%)	72 (66.7%)		108
No	8 (19.5%)	33 (80.5%)		41
Believes acupuncture is safe			0.016	
Yes	20 (39.2%)	31 (60.8%)		51
No	9 (17.6%)	42 (82.4%)		51

WMA: Western medical acupuncture; TCA: traditional Chinese acupuncture; IM: integrative medicine.

proportions of physicians who have personally tried acupuncture in different communities and comparing their knowledge of acupuncture with that of physicians who have never received an acupuncture treatment. Our study showed that physicians who have personally tried acupuncture were more likely to refer patients for acupuncture. Furthermore, our study showed that physicians who know the difference between WMA and TCA are more likely to have personally used or referred patients for acupuncture. This suggests that framing acupuncture scientifically could foster physicians' acceptance of this non-conventional treatment modality and eventually help with its "mainstreaming."

For these reasons, we believe that all acupuncture teachings should, in parallel with cultivating the traditional concepts of acupuncture, emphasize its mechanisms of action and effects from the conventional medicine perspective.

Most study participants considered acupuncture to be effective for pain conditions, especially musculoskeletal pain. Fibromyalgia was the most frequently selected response to the question about evidence of effectiveness of acupuncture. It was remarkable that a lower proportion of physicians considered acupuncture effective for neck or back pain with radiculopathy compared to neck or back pain without radiculopathy. This gives the impression that physicians may believe acupuncture to be mostly effective

for musculoskeletal pain and not radicular pain, for instance, although studies suggest that it may be effective at treating radicular pain like sciatica and cervical radicular pain.[19,20] An even lower proportion of study participants believed acupuncture to be effective for non-pain conditions, like morning sickness, chemotherapy-induced nausea, addictions, and anxiety, although these conditions have been found to be responsive to acupuncture,[21,22] which reflects a gap in the physicians' knowledge. It is now clear that acupuncture can trigger complex multisystem physiological responses.[23] Spreading this knowledge among both physicians and patients may help widen the scope of acupuncture practice and aid patients with ailments for which conventional medicine has little to offer.

Most of our study respondents would rather refer their patients at later stages of their illnesses to try acupuncture as a last resort, which probably mirrors the fact that acupuncture lacks real integration within mainstream medicine. Unfortunately, this perspective can hinder acupuncture's effectiveness, since the chronicity and complexity of health conditions in general can restrain the efficacy of any treatment modality, which may on the other hand show better efficacy if applied in early stages of diseases. In fact, acupuncture can be offered to patients as first line among the different available therapeutic options in conditions where its effectiveness has been demonstrated, taking into consideration shared decision-making with patients by harmonizing their preferences, as well as their social, cultural, and financial circumstances, with the best available evidence.

This study could serve as a baseline assessment of Lebanese physicians' perspectives on acupuncture, for use in future larger scale studies that may help evaluate the ability of specific interventions (i.e. acupuncture educational initiatives) to influence these perspectives in the future. We believe that well-founded unified physician knowledge is the backbone of any intervention aspiring to integrate acupuncture in the healthcare system in Lebanon.

Limitations

Our main limitation was the low response rate, and the ensuing non-response bias, which jeopardizes our ability to generalize our findings to the wider Lebanese physician population, keeping in mind the trend of low response rates to surveys among physicians worldwide. Ultimately, it is possible that the physicians who responded were more interested in acupuncture than those who did not respond, which raises the possibility that physicians overall have a poorer knowledge of acupuncture than suggested by our results. Since we used an e-mail survey, we could not reach physicians who did not have registered e-mail addresses in the LOPs. It is our intent that this exploratory study, which probed an uninvestigated territory in Lebanon, will pave the way for the conduction of larger scale studies and for the subsequent implementation of interventions aiming at integrating acupuncture within the healthcare system in Lebanon.

Declaration of conflicting interests

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