Complementary Therapies in Medicine 41 (2018) 175–179

Contents lists available at ScienceDirect

Complementary Therapies in Medicine

journal homepage: www.elsevier.com/locate/ctim

Attitudes and barriers towards using complementary and alternative medicine among university students in Jordan

Rakan Radi[a,*], Ula Isleem[a], Lujain Al Omari[a], Orhan Alimoğlu[b], Handan Ankarali[c,d], Hana Taha[e]

[a] Department of Family and Community Medicine, Faculty of Medicine, University of Jordan, Amman, Jordan
[b] Department of Surgery, Faculty of Medicine, Istanbul Medeniyet University, Istanbul, Turkey
[c] Faculty of Medicine, Department of Biostatistics, Istanbul Medeniyet University, Istanbul, Turkey
[d] Department of Biostatistics and Medical Informatics, Faculty of Medicine, Düzce University, Düzce, Turkey
[e] Qatar University, College of Medicine, Population Medicine Department, Qatar

ARTICLE INFO

Keywords:
Complementary and alternative medicine
CAM
Jordan
Students
Perception

ABSTRACT

Background: Perceptions towards Complementary and Alternative Medicine (CAM) are highly variable but are improving globally. However, studies conducted in Jordan about CAM are insufficient. This study aims to explore the attitudes and barriers towards using CAM among university students in Jordan.

Design and methods: This cross-sectional study was conducted at the University of Jordan. A self-administered paper questionnaire was distributed to 475 students from the Faculties of Medicine, Pharmacy and Engineering of all academic years. Descriptive and multivariate data analysis was done using SPSS v.20.

Results: Seventy percent of all the participants have used at least one type of CAM. Younger female pharmacy students were most likely to use CAM. There were significant differences between students of different academic years regarding their opinions on CAM ($p < 0.024$). The percentage of medical students who believed that combining CAM with modern medicine would improve the overall treatment quality was significantly lower than the other two faculties ($p < 0.001$). Of the students who never used CAM, 39% did not do because they doubted its effectiveness.

Conclusion: There is a need for including CAM in the universities' curriculum as mandatory courses for health faculties and elective courses for other disciplines.

1. Introduction

Complementary and Alternative Medicine (CAM) is a recognized medical practice that uses multiple treatment therapies and techniques in the prevention and management of a variety of human disorders.[1] The National Center for Complementary and Alternative Medicine (NCCAM) defines 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".[2] The NCCAM classified CAM therapies into five groups: 1. alternative medical systems *(homeopathic medicine, traditional Chinese medicine, naturopathic medicine, and Ayurveda medicine)*, 2. mind-body interventions *(meditation, prayer, mental healing, art, music, or dance)*, 3. biologically-based therapies *(herbal medicine, dietary supplements)*, 4. manipulative and body-based therapies *(chiropractic, osteopathic, massage)*, and 5. energy therapies (*Reiki, qi gong therapeutic touch, pulsed fields, and magnetic fields)*.[2,3]

CAM is gaining popularity worldwide despite its clinical effectiveness being debated among medical professionals.[4] A systemic review conducted by Eardley et al. [5] showed that people are using CAM for many reasons, including its availability, its perceived safety, unsatisfactory results obtained from conventional medicine, and to prevent disease, all of which are factors contributing to its rising prevalence. Also, the individual's desire to participate in treatment decisions is a motive to use CAM. [6] Moreover, there is a better understanding of CAM therapies and their benefits by the public due to the emergence of specialized journals focusing on CAM, which improves the attitude towards it.[4] Further denoting to the effect of CAM education on the attitude towards it, a study was conducted in Saudia Arabia, in which medical students were asked to fill a questionnaire to assess their knowledge, attitude, and practice of CAM before and after taking a 48-hour CAM course.[7] Results showed an improvement in knowledge and a more positive attitude towards CAM after the course.

Despite the spread of CAM worldwide and the consequent rise in number of physicians with CAM training,[4] there remains a lack of

* Corresponding author at: PO Box: 17499, Um Uthaina, Amman, Jordan.
E-mail address: rakanradi95@gmail.com (R. Radi).

https://doi.org/10.1016/j.ctim.2018.09.012
Received 19 July 2018; Received in revised form 6 August 2018; Accepted 14 September 2018
Available online 24 September 2018

regional studies in Arab countries that aim to assess the general attitudes towards CAM. Therefore, we conducted this study to explore the attitudes towards CAM and barriers against its use among students at the University of Jordan.

2. Materials and methods

This cross sectional study was approved by the Jordan University Medical Research Ethical Review Board (reference: 1541/2016/19). The data was collected from the students at the University of Jordan in 2016. The university is located in Amman, the capital city of Jordan. Amman is the most populated city in the country with a population size of 4 million.[8] Eighty-four percent of the Jordanian population lives in urban areas.[9] There are 28 universities in Jordan. All of them teach engineering, 18 teach pharmacy and six teach medicine.[10]

A structured questionnaire (SQ) was developed by the research team after the review of available literature. The SQ was adjusted based on a pilot study that enrolled 15 students from the University of Jordan. In its final form, the SQ contained questions about the participants' age, gender, faculty, year of study, whether the students lived in urban or rural areas, their parents' educational level, the participants' knowledge, practices, and attitudes towards CAM, as well as their perceived effectiveness and harmfulness of CAM. The SQ was distributed to a convenience sample of 475 students. Convenience sampling is "a type of nonprobability sampling in which people are sampled simply because they are "convenient" sources of data for researchers".[11] The students were approached outside of class, and their academic years were identified before receiving the questionnaire, to ensure almost equal distribution of the questionnaires among the students from different years to avoid bias. The questionnaire was completed within 15–20 min and returned by 451 students, with a response rate of 95%. The participants in this study were recruited from the Faculties of Medicine (FoM), Pharmacy (FoP) and Engineering (FoE). The sample diversity was important to create a better understanding of the perceptions towards CAM. MS and PS are representatives of health science students while ES represent students who are not as knowledgeable or oriented about health care provision. Data categorization, comparison and association were conducted using descriptive statistics, Pearson's chi-square, Fisher-Freeman-Halton test and post hoc Dunn test. Statistical analysis considered that p value less than 0.05 shows a significant association. All calculations were done using SPSS (IBM Statistics ver.20) program.

3. Results

The total number of students who participated in this study was 451 (167 from the FoM, 131 from the FoE and 153 from the FoP). The mean ages in the FoM, FoE and FoP were 20.9, 20.5 and 21.1 respectively with ages ranging from 17 to 30.

3.1. Difference in knowledge and attitude between the three faculties

The percentage of PS that took classes on CAM (46%) was significantly higher than the percentage of ES (15%) and MS (6.7%) ($p < 0.001$). The percentages of students from the FoM, FoE and FoP that believed that CAM could be helpful were 62%, 42% and 66% respectively ($p < 0.001$).

The percentage of MS who believed that combining CAM with modern medicine would improve the quality of treatment was significantly lower than the other two faculties ($p < 0.001$).

PS were the most willing to try a form of CAM recommended by relatives whereas MS were the least inclined to be influenced by family members ($p < 0.001$) (Table 1).

3.2. Difference in attitude between students of different academic years

There were significant differences between students of different academic years regarding their opinions on CAM: 74% of 6th year medical students believed that CAM could be helpful while only 40% of 1st year students believed so ($p < 0.024$) (Table 2).

There was no significant difference between the students of different academic years regarding whether they would recommend CAM to others or not, but the percentage of 6th year students was relatively lower than the other years.

3.3. Difference in attitude between genders

A significantly larger proportion of males believed that CAM was not helpful or were indifferent towards it, while a significantly larger percentage of females believed that CAM could be helpful and should be used more ($p < 0.001$).

Most students believed that combining CAM with modern medicine would improve the quality of medicine, but the percentage of females that thought so was significantly larger than the percentage of males ($p < 0.001$). Female pharmacy students were the most supportive of combining CAM with modern medicine, while male engineering students were the least (Table 3).

Eighty nine percent of the females would recommend the use of CAM to other people, which is significantly larger than the proportion of males that would do so (79%) ($p < 0.03$).

Forty-eight percent of the males wanted to take classes on CAM, while 61% of females showed interest in that ($p < 0.011$).

3.4. Effect of place of birth on attitude towards CAM

Whether the students were born in an urban or a rural area played no significant role in shaping the students' opinions on CAM and whether they thought that combining CAM with modern medicine would improve the quality of treatment. Moreover, there were no significant differences regarding willingness to try CAM and take classes, or whether they would recommend the use of CAM to others or not.

3.5. Effect of parents' educational level on attitude towards CAM

The parents' educational level affected the students' opinions on CAM, but not significantly. The highest percentage of students that believed that CAM could be helpful and should be used more had parents that attained bachelor's degrees while the highest percentage of students that believe that CAM was not helpful had parents that completed secondary school only. Additionally, the parents' educational level didn't have a significant effect on whether the students would recommend CAM to others or not.

3.6. Barriers to the use of CAM

Seventy percent of all the participants have used at least one type of CAM. Of the students who had not used CAM, 39% did not use it because they did not believe in its effectiveness. The majority of MS and PS that had not used CAM before didn't do so because they were skeptical of it. On the other hand, most of the ES that had not used CAM before didn't because they had never had the chance to do so ($p < 0.02$). However, the majority of the students from all 3 faculties were willing to try to use CAM for the first time.

There were significant differences between students of different academic years that have not used CAM regarding their reasons for not doing so (≤ 0.005), and regarding their willingness to use try it (≤ 0.006) (Tables 4 and 5).

Of the students that had not used CAM previously, males and females had no significant differences regarding the reasons for not using it, nor were there significant differences regarding the willingness to