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Original article

Medical students' knowledge and attitude towards complementary and alternative medicine – A survey in Ghana

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ABSTRACT

Interest, use of and research into Complementary and Alternative Medicine (CAM; 補充與替代醫學 bǔ chōng yǔ tì dài yī xué) is on the increase in recent times even in developed countries. It may therefore be appropriate if medical students who would become future physicians possess adequate knowledge and better attitude towards CAMS. This study assessed medical students' knowledge of, attitude towards, and usage of CAM as well as their opinion about integrating CAMs into the medical curriculum. In a cross-sectional study, 203 medical students in 2nd, 3rd and 4th year classes completed a questionnaire. Data was analyzed using SPSS 18 and GraphPad 5.01. Association between different variables was tested. The overall mean knowledge score was 19.6%. Students in higher years of study were significantly more knowledgeable in CAMs ($p = 0.0006$). The best known CAM was herbal medicine (63.6%), with relatives and friends being their main source of information. Students' attitude towards CAM was good (75.1%) with majority (71.5%) favouring introduction of CAM into the medical curriculum; preferably at the preclinical level (67.5%). Year of study, gender and locality where student grew up did not significantly affect attitude towards CAM use. Up to 117 (59.0%) of the students had ever used CAM especially herbal medicine. Although students in this study were deficient in knowledge on CAMs, their attitude and usage was good. Herbal medicine was the best known and used CAM. Majority of the students believed knowledge on CAM would be beneficial to their practice hence, desirous of its introduction into their medical curriculum.

1. Introduction

Advances of scientific research have brought about better understanding of diseases and mechanism of action of allopathic medicines. However, a good proportion of the world's population, even in developed countries, continue to depend on Complementary and alternative medicines (CAM; 補充與替代醫學 bǔ chōng yǔ tì dài yī xué) which are a group of varying medical and health systems, practices and products not usually considered as part of conventional medicine.[1] A study in the United States of America in 2007 reported that almost 4 out of 10 adults had used some form of CAM within the previous year.[2] Also in 1998, the US public is estimated to have spent between $36 and $47 billion on CAM therapies.[1] This increasing patronage of CAM is driven by its perceived success in recovering, healing, improving health, and more importantly, perceived lack of side effects, lower cost, and prompt attention compared to conventional medicines and practice.[3,4]

In Africa, it is estimated that one traditional healer takes care of the health needs of every 500 people especially in rural areas and up to 80% of the population use traditional medicine for their primary health care needs.[5,6] In recognizing the role played by these traditional healers, WHO is encouraging countries to promote and integrate traditional medical practices in their health care systems.[6]

The success or otherwise of integrating CAM and conventional medical practice into the future healthcare system worldwide

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largely depends on the knowledge and attitude that physicians and other health workers would have with regards to CAM.[7] Assessing medical students' attitude towards CAM would measure the possibility of this integration since as future doctors; they are both the future policy formulators and implementers.[8] Education on CAM has been found to lead to the development of more positive attitudes towards CAM, and this has enhanced the inclusion of CAM into the curricula of medical schools in the USA.[9–11]

Data from developing countries on knowledge and perception of medical students towards CAM is limited. Currently, there is no published data in relation to this topic from Ghana. This study therefore assessed the knowledge, attitude towards, and usage of CAM among medical students of the University for Development Studies, one of the four medical schools in Ghana. Currently, CAM is not part of the Problem Based Learning curriculum in UDS, so the study would also assess the students' attitude towards its inclusion into the medical curriculum.

2. Method

2.1. Study design and setting

This was a cross sectional study involving all 2nd, 3rd and 4th year medical students of the University for Development Studies in Tamale, Ghana. Using previously published data, a structured questionnaire was designed.[12–14] The questionnaire gathered information on respondents' demographic data, knowledge, attitude and usage of complementary and alternative medicine. A pilot study of the questionnaire involving six students from the 3rd and 4th year medical classes was undertaken to determine the face validity of the questionnaire and also correct ambiguities. Second year students were not available on campus at the time of piloting the questionnaire. In addition to the students who took part in the piloting, all first year medical students who in this university read preparatory subjects were also excluded from the final study which took place between May and June, 2014. Whereas, the 2nd year class were administered the questionnaire after a block examination, the 3rd and 4th year students filled the questionnaire before a lecture session. Students voluntarily participated in the study after they were briefed on the research. They were each allowed at least 20 min to complete the questionnaire.

Prior approval for this study was obtained from the Ethics Committee of the School of Medicine and Health Sciences of the University for Development Studies.

2.2. Study variable determination and measurements

Knowledge, attitude and usage were measured using both closed and open ended questions. The closed ended 'yes' and 'no' questions mostly scored one point if it was affirmative and zero for a negative answer. Depending on the complexity of the open ended questions, points greater than one were awarded for correct answers. Due to the subjectivity of self-reported levels of knowledge, a more objective procedure was used to assess the student's knowledge by requesting respondents who claimed to possess knowledge on CAM (補充與替代醫學 bǔ chōng yǔ tì dài yī xué) or any of the modalities to define or describe them.

The level of knowledge of respondents on CAM was determined using 4 questions. The first question, which measured awareness, required a yes or no answer as to whether respondent knew what CAM was. The second and third questions were open ended question asking respondent to define CAM and list four examples. Respondent's definition of CAM was compared with that of the National Centre for Complementary and Alternative Medicine (NCCAM) in the US, and a maximum of two points were scored for a right answer. Each correct example of a CAM scored 1 point. Question four, was a table of 17 CAM modalities asking respondents if they had heard of each of the modalities, first source of information, and a brief definition of the CAM if they had knowledge on each specific CAM. The listed CAM modalities were; Homeopathy, naturopathy, acupuncture (針灸 zhēn jiǔ), ayurvedic medicine, aromatherapy, chiropractic, faith healing, massage therapy, Traditional African healing, iridology, hypnosis, meditation, yoga, reflexology, energy medicine, herbal medicine and biofeedback. A respondent agreeing to have ever heard of any of the CAM modalities scored 0.5 of a point, while one point was awarded for the correct description or definition of a listed CAM modality. A total of 8.5 points was scored for being aware of all the CAM modalities, while accurate definition or description of all the listed CAM modalities scored 17 points. The mean knowledge scores were obtained for each class, gender and locality where a student grew up.

Attitude was measured using 9 close-ended questions requiring a Yes or No answer. One open-ended question asked of the respondent's reaction if a patient asked for recommendation of CAM. A positive response scored one while a negative/indifferent answer scored zero. To assist respondents who had limited knowledge on CAM to appropriately respond to questions that would measure their attitude, the NCCAM definition was provided and respondents informed that a previous table (Question 4) contained a list of various CAM modalities. Overall mean attitude score was obtained for each class, gender and locality of early life of the respondent.

Knowledge and attitude were further categorized as poor when scores were less than 50% or good, when scores were 50% or more.

Level of usage of CAM was assessed using two questions; if respondent had ever used CAM, and whether they were satisfied with the CAM used.

2.3. Statistical analysis

Data was entered into Microsoft Excel, and analyzed using GraphPad Prism, Version 5.01 (GraphPad Software Inc., San Diego CA) and Statistical Package for the Social Sciences (SPSS), version 18 (SPSS Inc, IBM, Chicago, IL, USA). Internal consistency of the questionnaire was assessed by Cronbach's alpha value. Associations between participants' demographic characteristics and both knowledge and attitude scores were assessed using the Chi-square test. The mean scores of knowledge and attitudes were compared using the independent t-test and one-way Analysis of Variance (ANOVA), where appropriate. Relationship between knowledge and attitude scores was determined by calculating the Pearson's correlation coefficient. Statistical significance was assumed at $p < 0.05$ and at a confidence interval of 95%.

3. Results

3.1. Demographic profile

A total of 284 questionnaires were administered out of which 203 were completed and returned giving a response rate of 71.5%; (2nd year n = 97/124, 78%; 3rd year n = 62/83, 75%; 4th year n = 44/77; 57%). The Cronbach's alpha value for the questionnaire was 0.85. The mean age (standard deviation) of the respondents was 22.35 (±2.248) years. As shown in Table 1, majority of respondents were males 125 (61.6%); grew up in the urban areas of Ghana, 116 (56.7%); were followers of the Christian religion, 159 (78.3%). Most of them were 2nd year medical students, 97 (47.8%).