Integration of Complementary and Alternative Medicine into German Medical School Curricula – Contradictions between the Opinions of Decision Makers and the Status Quo

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Key Words

Medical schools · Alternative and complementary medicine ·
Naturopathy · Survey · Curriculum

Summary

Introduction: There is a growing demand for complementary and alternative medicine (CAM) in Western societies. This trend has led to the gradual integration of CAM courses into medical school curricula. The aim of this study was to survey key decision makers at German medical schools with regard to their views on CAM and to examine the extent to which CAM has already been integrated in the German medical school system.

Materials and Methods: A questionnaire was sent to 753 clinic and institute directors at German medical schools. **Results:** A total of 500 questionnaires (66%) were returned. 39% of respondents had a positive opinion of CAM, 27% had a neutral opinion and 31% had a negative opinion. 3% of respondents were unsure. The CAM therapies viewed most positively were osteopathy (52%), acupuncture (48%), and naturopathy (41%). Most respondents were in favor of integrating CAM into the medical system. However, a larger percentage favored its use in research (61%) and teaching (59%) rather than in the treatment of patients (58%). Only 191 respondents (38%) indicated that CAM treatment methods had been integrated into the curriculum of their respective medical schools. In these schools, CAM was mainly used in patient treatment (35%), followed by research (22%) and education (21%). **Conclusions:** Our data show that the majority of respondents were in favor of integrating CAM into medical school curricula. However, at the time of our survey, only a small percentage of medical schools had actually put this into practice. The reasons for this discrepancy are unclear and should be further investigated.

Schlüsselwörter

Medizinische Hochschulen · Naturheilverfahren und
Komplementärmedizin · Umfragestudie · Studienordnung

Zusammenfassung

Hintergrund: Die Inanspruchnahme von Naturheilverfahren und Komplementärmedizin (complementary and alternative medicine, CAM) steigt in den westlichen Industrienationen. Dieser Trend fördert die Integration von Lehrinhalten von Naturheilverfahren und Komplementärmedizin an den medizinischen Hochschulen. Ziel der Umfragestudie war es, die Meinung von Entscheidungsträgern an den medizinischen Hochschulen Deutschlands bezüglich Naturheilverfahren und Komplementärmedizin zu erfragen und den Stand der Integration von CAM in die medizinischen Hochschulen zu dokumentieren. **Material und Methoden:** Ein Fragebogen wurde an insgesamt 753 Klinikdirektoren und ausgewählte Institutsleiter an medizinischen Hochschulen in Deutschland verschickt. **Ergebnisse:** Insgesamt wurden 500 Fragebögen (66%) zurückgesandt. 39% der Antwortenden hatten eine positive Meinung zu CAM, wohingegen 27% eine neutrale und 31% eine ablehnende persönliche Meinung hatten (3% unklar). Osteopathie (52%), Akupunktur (48%) und Naturheilverfahren (41%) waren die am häufigsten positiv eingeschätzten Therapieverfahren. Die meisten Antwortenden sprachen sich für die Integration von CAM in Forschung (61%), Lehre (59%) und Patientenversorgung (58%) an den medizinischen Hochschulen aus. 38% der Antwortenden gaben an, dass CAM in ihre universitären Kliniken bzw. Institute integriert wurden, wobei der Fokus auf der Patientenversorgung (35%), gefolgt von Forschung (22%) und Lehre (21%) lag. **Schlussfolgerungen:** Die Studienergebnisse zeigen, dass sich die Mehrzahl der Antwortenden für eine Integration von CAM an den medizinischen Hochschulen ausspricht. Allerdings wurde dies bisher nur zu einem sehr geringen Prozentsatz in die Praxis umgesetzt. Die Gründe für diesen Widerspruch sind unklar und sollten weiter erforscht werden.

Introduction

The demand for complementary and alternative medicine (CAM) is growing, especially in the United States (US) and other Western nations [1–4]. Furthermore, it has been shown that the majority of medical students view CAM in a positive light, and there is a high level of self-reported CAM use amongst this group of individuals [5]. Surveys have indicated that the interest in CAM amongst doctors and medical students is indeed growing [6–8]. Another study has shown that the majority of medical students would like to learn about different types of CAM treatment as part of their medical training [9]. This trend has led to the gradual integration of CAM courses into medical school curricula. In the US, a national conference on complementary and alternative therapy education, involving the National Institutes of Health, recommended in 1995 that CAM should be included in nursing and medical training. 2 years later, a survey involving all 125 US medical schools found that 75 schools were offering some form of CAM education [10]. However, there is a growing discussion on how best to incorporate CAM therapies into medical curricula in the US [11, 12] and Great Britain [13]. A study on the use of CAM at European universities has shown that here CAM curricula covered a wide range of techniques ranging from homeopathy to shamanism [14].

In October 2003, the German parliament passed a law on medical education stipulating that naturopathy (NP) be included as a compulsory subject in medical school curricula and examinations [15, 16]. However, the implementation of this law seems in doubt: currently, there are only four professorships for naturopathy and complementary medicine in Germany. In addition, only 11 of 36 medical schools were offering courses in naturopathy or complementary medicine at the time we conducted this study [16].

The reasons for the contradiction between the growing interest in CAM amongst medical students and physicians and its lacking full integration into German medical school curricula are unclear. Thus, this study had two principal aims: (1) to survey key decision makers at German medical schools with regard to their views on CAM, selected CAM treatments and the integration of CAM into the German medical school system; (2) to examine the extent to which CAM treatment, education and research already have been integrated into the German medical school system.

Materials and Methods

Design and Target Group

In September 1997, we sent a total of 753 questionnaires to clinic and institute directors at German medical schools. The institutions involved included institutes of pharmacology, medical statistics and biostatistics, social medicine, community and environmental medicine, the history of medicine, medical psychology and physical and rehabilitation medicine.

With each questionnaire we sent a cover letter explaining the aim of the project and giving clear instructions on how to fill out the questionnaire. After 2 months, a reminder was sent to those who had not yet responded.

Questionnaire

The questionnaire itself consisted of two sections. The first section (2 blue A4 pages with a total of 15 items) included definitions of complementary medicine, naturopathy and, most importantly, CAM treatment methods. Complementary medicine was defined as any non-conventional form of medical treatment with the exception of naturopathy. Naturopathy was defined as any of the following treatments: phytotherapy, hydrotherapy, exercise therapy, dietary therapy and a special psychosomatic therapy called 'Ordnungstherapie' which encourages changes in lifestyle. Furthermore, the first section of the questionnaire also contained questions regarding the respondent's views on CAM, selected CAM treatments and whether CAM should be integrated into the German medical school system (see fig. 1, part 1). In this section of the questionnaire, respondents were also asked to provide information about their professional position, age and gender, the hospital's or department's field of specialty and the location of their department in Germany. The second section (4 white A4 pages with a total of 26 items) included questions about the extent to which CAM treatment, education and research has already been integrated into the curriculum at the respondent's clinic or institute (see fig. 1, part 2).

Statistics

All data were analyzed descriptively using SPSS (Version 9.0) and presented, unless explicitly described in another fashion, as means and standard deviation (SD). According to their answer to the question 'What is your opinion of naturopathy and complementary medicine?', respondents were defined as having a positive, neutral or negative opinion on a 5-point scale (1 = positive, 5 = negative). Respondents who answered with 1 or 2 were defined as having a positive opinion. Those who answered with a 4 or 5 were defined as having a negative opinion. With the exception of the overall response rate, all percentages cited in the present manuscript are based on the completed questionnaires. Questionnaires that were not returned have not been included in these percentages. Percentages based on the worst case analysis of the 753 distributed questionnaires are also presented for the main items of the questionnaire.

Results

A total of 500 questionnaires (66% of the 753 questionnaires distributed) were returned. Of these, 380 questionnaires (76%) were returned by respondents from clinical departments and 107 (21%) by respondents from research institutes (3% unclear). Respondents were 48 ± 10 years of age (mean and SD). 86% were male. 73% of all respondents had a PhD. Furthermore, 55% of the respondents were directors of departments or institutes, and 33% were assistant medical directors or senior physicians. The highest response rate was obtained from physical therapy departments (88%), followed by departments of social medicine (87%) and departments of neurology and neurosurgery (81%). The lowest response rate was associated with departments of biochemistry and statistics (26%).

In total, 39% (worst case analysis: 23%) of respondents had a positive opinion of CAM, 27% (16%) had a neutral opinion and 31% (61%) had a negative opinion. A total of 3% were

Part 1

How would you rate your opinion of Naturopathy (NP) and Complementary Medicine (CM)?

Answers: positive to negative (5-point Likert scale) and 'don't know'

What is your opinion of NP/CM based on?

Answers: personal conviction, personal experience, scientific research (more than one answer possible)

What, in your opinion, are the possible benefits of NP and CM?

Answers: reducing costs in the health care system, providing therapeutic alternatives, serving as adjunctive therapy, reducing side-effects, use as a placebo, no benefit, 'don't know' (more than one answer possible)

How would you rate the benefits of the following NP/CM methods for the health care system?

Methods: naturopathy, phytomedicine, homeopathy, acupuncture, traditional Chinese medicine, naturopathy, osteopathy

Answers: 'very useful' to 'not at all useful' (5-point Likert scale)

Should NP/CAM be integrated into patient care, teaching and research in medical institutions?

Answers: yes/no; if yes: in which institutions?

university clinics, other hospitals, specialty clinics, doctor's private practices, offices of non-medical practitioners (for each answer, the categories 'patient care', 'teaching' and 'research' can be selected)

Which scientific instruments are, in your opinion, useful for evaluating the effectiveness of NP/CM?

Answers: controlled clinical studies, observational studies, case studies, experimental studies, theoretical models that explain mechanisms of action, specific naturopathic study designs, placebo research. (For each the choice of 'very important' to 'not at all important' (5-point Likert scale)

What do you see as the risks or disadvantages of NP/CM?

Answers: unknown side effects or contraindications, lack of quality assurance in the training of therapists, hindrance of conventional therapies, uncritical use of NP/CM by the doctor, uncritical use of NP/CM by patients (more than one answer possible)

Is NP/CM used at your clinic?

Answers: yes/no

Part 2

Are patients in your clinic treated using therapeutic methods from NP/CAM?

Answers: yes/no

Do students at your institute or clinic receive any training or education in NP/CAM?

Answers: yes/no

Have any research projects in NP/CAM been conducted or are any research projects in NP/CAM currently being conducted at your clinic or institute?

Answers: yes/no

Fig. 1. Main questions of the questionnaire.

unsure. Positive opinions of CAM were based on personal experience (74%), scientific research (46%) or personal conviction (45%). On the other hand, negative opinions of CAM were primarily based on scientific research (74%), followed by personal experience (46%) and personal conviction (27%). As regards the use of non-conventional therapies, 74% of the respondents viewed CAM as an adjunctive therapy to conventional medicine, 36% as a placebo and 31% as an alternative treatment. Participants in the survey had different opinions about various CAM treatments (fig. 2). The CAM therapies viewed most positively were osteopathy (52%), acupuncture (48%) and naturopathy (41%). Chinese medicine (17%) and homeopathy (10%) were viewed least positively.

For most respondents, controlled clinical trials (93%) and experimental studies (76%) were considered to be the most important scientific instruments for evaluating CAM. In contrast, non-conventional evaluation methods specific to CAM (36%) and case studies (17%) were rated as unimportant. The risks of CAM were seen to be primarily associated with inadequate quality control in practitioner training (72%) as well as undifferentiated use of CAM and naturopathy by medical practitioners (69%).

Most respondents were in favor of integrating CAM into the medical system, although a larger percentage approved of its use in research and development (61%, worst case analysis: 41%) and in teaching (59%, 39%), rather than in the treatment of patients (58%, 39%). Despite of that, only 191 respondents (38%, worst case analysis: 25%) indicated that CAM treatment methods had been integrated into the curriculum of their medical schools. In the schools which had included CAM as part of their curriculum, the main focus was on patient treatment (35%, percentage based on respondents of clinic departments $n = 380$; worst case analysis: 18%), followed by research (22%, 14%) and education (21%, worst case analysis: 14%) (fig. 3).

Discussion

Regardless of their own opinion, the majority of respondents were in favor of integrating CAM into medical school curricula, especially in research and education. However, only a small percentage of clinics and institutes had actually put this into practice at the time of our survey.

Fig. 2. Attitudes towards the benefits of different CAM therapies for the health care system.

Fig. 3. Current and recommended status of integration of CAM in German medical schools (n = 500; CAM treatment: percentage based on respondents from clinic departments, N = 380).

To our knowledge this is the first study to survey key decision makers at German medical schools with regard to their views on CAM and selected CAM treatments and simultaneously evaluate the extent to which CAM has been integrated into German medical school curricula. Its strengths include a carefully defined target group/study population, a reminder after 2 months, a high response rate, a representative group of respondents (with more than 85% holding important managerial positions at the respective institutions) and a worst case analysis.

However, there are several important limitations to our study. The selection of the target group may be problematic because we sent our survey not only to medical clinics but also to research institutes which focus exclusively on teaching and research as opposed to patient care. Nonetheless, we chose to include research institutes, as it is well known that CAM does play a role in their day-to-day work. Another limitation may be the fact that we did not send out a second reminder. We chose not to do so for three reasons: firstly, sending out more than two questionnaires (i.e. the original questionnaire followed by a written reminder and a new copy of the questionnaire) would have deviated from our original study design, which we felt would have been an unwarranted breach of protocol. Secondly, the response rate to our questionnaire was satisfactory, making a second reminder unnecessary. Thirdly, in most previous surveys, only one reminder was sent out [17, 18]. Because of the lack of other studies investigating the opinions of key decision makers in the health care system, we had to develop our own questionnaire which cannot be compared to other questionnaires which would have been designed either for medical students [5, 6, 9] or physicians [12]. Surveys investigating the views of medical school directors, have also been based on self-designed questionnaires [14, 18]. The response rate in our study was similar or even higher than that obtained by other surveys of key decision makers and their views on CAM [17, 18]. However, it must be kept in mind that the results presented here only reflect the views of the individuals who filled out our questionnaire as opposed to

the entire target group. Because of this selection bias, our results may overestimate the acceptance of CAM and the extent to which CAM has been integrated into the curricula of German medical schools. The results of the worst case analysis indicate that there is no reason to be overly optimistic. According to the worst case analysis, only about a quarter of all respondents had a positive opinion of CAM and about one quarter had already integrated CAM into their medical school curricula. In addition, only about 40% of the respondents were in favor of integrating CAM into the medical system.

Courses on CAM were being offered by approximately one-third of the individuals who answered our survey. In another survey of 550 European universities, it was shown that 43% of these institutions offered at least some courses on CAM [14]. In contrast, about two-thirds of US medical schools were providing elective courses in CAM in 1998 [10]. The reason for the discrepancy between the number of CAM courses offered in Europe and the US is unclear and may be due to the growth of interest in CAM since the pioneering publications of Eisenberg [1, 19] or the result of increased funding for CAM by the NHS. In addition, the deans of US medical schools signaled their understanding for the need to change medical education by integrating CAM [17].

In the present study, the contradiction between the desire of key decision makers to integrate CAM into German medical school curricula and the lack of concrete progress in this respect remains unresolved and should be the subject of further research. It may indeed not be the personal opinion of decision makers at university medical schools which determine whether CAM should become part of education, research and patient care in the German medical school system, but rather other factors, such as economic and socio-political pressures.

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