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# A profile of journals of complementary and alternative medicine[1]

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## Summary

An increasing amount of medical scientific information is published in specialised journals on various subjects, including complementary and alternative medicine (CAM). There are indications that positive findings may be published at the expense of methodological rigour. The aim of this investigation was to provide a profile of CAM journals currently available on Medline, and monitor trends in publication practice between the years 1995 and 2000. Systematic literature searches were performed to identify all CAM journals indexed in Medline. Journals published in 1995 and 2000 were identified by their title and content. Primary CAM research journals only were included in this analysis. All articles were read, data were extracted and categorised according to pre-defined criteria, e.g. type of methodology used, subject area, and direction of outcome. The number of original articles increased from a total of 61 in 1995 to 97 in 2000 across all four journals, the number of papers reporting clinical trials decreased by 4% between 1995 and 2000, and the number of surveys increased more than six times. Less positive and more negative articles were published in 2000 compared with 1995. The subject areas of papers varied greatly. The majority of articles published in 1995 suggested positive treatment effects, a phenomenon that was still present in 2000 albeit less strong. CAM journals, and most likely CAM itself, are associated with a lack of clinical trials and a bias in favour of positive conclusions.

*Key words: complementary medicine; alternative medicine; integrative medicine; Medline; journal analysis*

## Introduction

The growing popularity of complementary and alternative medicine (CAM) [1] is paralleled by an increasing amount of medical scientific information published in specialised journals on this subject. The US National Library has recently acknowledged a number of journals specialised in CAM by including them into their medical database Medline. This initiative has increased the accessibility and most likely also the dissemination of such CAM journals in general.

There are indications that some may present a biased account of the evidence. This includes suggestions that positive results are over-represented in such journals, and that positive findings may be published at the expense of methodological rigour [2, 3]. Such distorting effects may negatively affect the perception of CAM among patients, and not least patient care. Thus, it seems relevant to critically evaluate major CAM journals and assess changes within these publications over time. A five-year time duration seemed appropriate to answer the research question in this exploratory study. Therefore, the aim of this investigation was to provide a profile of CAM journals currently available on Medline and monitor trends in publication practice between the years 1995 and 2000.

## Methods

Systematic literature searches were performed to identify all CAM journals indexed in Medline. Medline was searched for the year 1995 and 2000 using the search terms "alternative medicine" and "complementary medicine". Journals identified by their title and content as primary research journals were included into this analysis. Review journals were excluded. Hard copies of volumes published in 1995 and 2000 were obtained. All articles

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were read, and data were extracted and categorised according to pre-defined criteria specified in tables 1 to 3. Letters, conference reports, and news items were excluded from the analysis.

Data were evaluated descriptively. For the purposes of this study a "positive outcome" was defined as one significantly in favour of CAM, while a "negative outcome" was defined as one with no significant difference between the CAM treatment and control intervention or as a result favouring the control intervention. Articles not reporting statistical significance were classified as positive, negative, or as neutral in keeping with the authors" conclusions.

**Table 1**

Publication type. * CMR = Research in Complementary Medicine; CTM = Complementary Therapies in Medicine; ATHM = Alternative Therapies in Health and Medicine; JACM = Journal of Alternative and Complementary Medicine. Values are absolute numbers of articles in each category.

| Journal | CMR* | | CTM* | | ATHM* | | JACM* | | all | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 1995 | 2000 | 1995 | 2000 | 1995 | 2000 | 1995 | 2000 | 1995 | 2000 |
| 1. Original articles | 19 | 17 | 16 | 25 | 17 | 19 | 9 | 36 | 61 | 97 |
| 1a) clinical trial | 19 | 11 | 10 | 6 | 14 | 12 | 6 | 18 | 49 | 47 |
| 1b) survey | 0 | 5 | 5 | 16 | 1 | 5 | 1 | 17 | 7 | 43 |
| 1c) meta-analysis | 0 | 1 | 1 | 3 | 0 | 2 | 2 | 1 | 3 | 7 |
| 2. Systematic reviews | 4 | 3 | 0 | 1 | 0 | 2 | 0 | 4 | 4 | 10 |
| 3. Traditional reviews | 9 | 1 | 3 | 1 | 7 | 12 | 7 | 9 | 26 | 23 |
| 4. Commentaries | 15 | 7 | 12 | 17 | 10 | 14 | 21 | 17 | 58 | 55 |
| 5. others | 0 | 2 | 17 | 3 | 7 | 15 | 6 | 2 | 30 | 22 |
| **Total number of articles** | **47** | **30** | **48** | **47** | **41** | **62** | **43** | **68** | **179** | **207** |

**Table 2**

Direction of outcome. Values are absolute numbers of articles in each category.

| Journal | CMR | | CTM | | ATHM | | JACM | | all | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 1995 | 2000 | 1995 | 2000 | 1995 | 2000 | 1995 | 2000 | 1995 | 2000 |
| positive | 32 | 14 | 29 | 15 | 26 | 32 | 13 | 29 | 100 | 90 |
| open | 15 | 14 | 18 | 30 | 15 | 30 | 30 | 33 | 78 | 107 |
| negative | 0 | 2 | 1 | 2 | 0 | 0 | 0 | 6 | 1 | 10 |
| Ratio (pos / neg) | ∞ | 7 | 29 | 7.5 | ∞ | ∞ | ∞ | 4 | 100 | 9 |

**Table 3**

Subject area. Values are absolute numbers.

| Journal | CMR | | CTM | | ATHM | | JACM | | all | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 1995 | 2000 | 1995 | 2000 | 1995 | 2000 | 1995 | 2000 | 1995 | 2000 |
| Aromatherapy | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 2 | 1 |
| Dietary supplements | 9 | 1 | 3 | 0 | 6 | 1 | 0 | 1 | 18 | 3 |
| General topics (CAM) | 4 | 6 | 9 | 19 | 7 | 14 | 14 | 12 | 34 | 51 |
| Healing | 0 | 1 | 2 | 0 | 0 | 5 | 1 | 4 | 3 | 10 |
| Homeopathy | 4 | 0 | 3 | 6 | 4 | 1 | 3 | 3 | 14 | 10 |
| Massage therapy | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 4 | 3 | 5 |
| Phytomedicine | 16 | 6 | 0 | 1 | 1 | 4 | 7 | 16 | 24 | 27 |
| Reflexology | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 2 | 2 |
| Others | 13 | 16 | 26 | 19 | 23 | 36 | 17 | 27 | 40 | 98 |
| **Total number of articles** | **47** | **30** | **48** | **47** | **41** | **62** | **43** | **68** | **140** | **207** |

## Results

Our search revealed five journals on CAM. These were *Alternative Therapies in Health and Medicine*, *Complementary Therapies in Medicine*, *Complementary Medicine Research* (Forschende Komplementärmedizin und Naturheilkunde), *Journal of Alternative and Complementary Medicine*, *and Alternative Medicine Review*. The latter was identified as a review journal and was therefore excluded.

The included journals were:

1. Research in Complementary Medicine (CMR), Karger Verlag Switzerland, published since 1994 – 6 times per year in both German and English with abstracts in both languages.
2. Complementary Therapies in Medicine (CTM), Churchill Livingstone UK, published since 1993 – 4 times per year in English.
3. Alternative Therapies in Health and Medicine

(ATHM), Innovision Communications USA, published since 1995 – 6 times per year in English.

4. Journal of Alternative and Complementary Medicine (JACM), Mary Ann Liebert, Incorporation USA since 1995 – 6 times per year in English language.

Key data of the included journals and their content are presented in tables 1–3. Across all 4 journals the number of original articles increased from a total of 61 in 1995 to 97 in 2000, while clinical trials decreased marginally from 49 to 47 during the same time period. The number of surveys increased more than six times from 7 (1995) to 43 (2000). There was a stronger emphasis on systematic reviews and meta-analysis in 2000, while slightly fewer traditional reviews were published in 2000 (table 1). Assessment of the direction of outcome indicates that less positive and more negative and open articles were published in 2000 compared with 1995 (table 2). The ratio of positive to negative articles decreased from 100 (1995) to 9 (2000).

The subject areas of papers varied greatly (table 3). Seventeen percent of all articles in 1995 and 13% of all articles in 2000 related to phytomedicine. General topics formed the largest category in both years (24% in 1995 and 25% in 2000).

## Comment

These results suggest that the number of papers reporting clinical trials in Medline-indexed CAM journals decreased by 4% between 1995 and 2000, while the total number of original articles increased by 62%. This latter finding is largely due to a six-fold increase in the number of published surveys.

National initiatives in the US [6], in Germany [7], Switzerland [8], and Italy [9] to invest in (large-scale) clinical trials in CAM are an indication of the fact that the question of efficacy/effectiveness of complementary treatments is deemed to be a research priority in CAM. As a consequence, the funding situation (particularly in the US) is slowly improving, and more researchers with a conventional background are attracted into CAM. They would most likely favour conventional medical journals for publishing their results. Relatively large numbers of controlled clinical trials of CAM are being published by mainstream medical journals [3]. Such journals usually have a much larger readership than CAM journals, providing superior dissemination and acknowledgement of the findings. It is thus a reasonable assumption that conventional journals attract more clinical trial submissions and that CAM journals, in turn, are "starved" of clinical trials for that reason. This hypothesis is supported by the data that we have obtained for mainstream medical journals.

Conducting an in-depth Medline search we found 315 clinical trials on subjects related to CAM in Medline in 1995 – for every clinical trial published in a CAM journal there were about 6 published in a mainstream medical journal. Using the same search strategy we found 447 clinical trials published in 2000 in mainstream journals – for every clinical trial published in a CAM journal, 10 were published in a mainstream medical journal.

The majority of articles published in Medline-indexed CAM journals in 1995 suggested positive treatment effects. At that stage the ratio of positive and negative reports was 100. The phenomenon of predominant publication of positive articles was less accentuated in 2000 (ratio = 9). Although this study was not designed to investigate publication bias, the best available evidence (systematic reviews and meta-analysis of rigorous clinical trials) does clearly not support the predominant reporting of positive conclusions in CAM [8]. Location bias in controlled clinical trials of CAM interventions has been shown to exist [3]. Our results suggest the existence of a similar type of bias whereby a selection process is at work, which channels positive CAM articles into CAM journals. This may be seen as a reflection of the immaturity of CAM as a field. The impact of this phenomenon is difficult to estimate. At worse it would seriously distort the perception of CAM among its proponents who predominantly access CAM journals for information.

The observed shift in focus of CAM journals is intriguing and may have a number of explanations. One reason may be that CAM in general focuses increasingly on research questions that require survey data, while questions on efficacy/effectiveness requiring data from controlled clinical trials are deemed of less importance. This abundance of surveys may reflect 1) the nature of CAM compared to mainstream medicine, 2) the relative youth of CAM as a science – people want to know what it is all about, and 3) the involvement of researchers from non-medical backgrounds (e.g. psychological, sociological) and their expertise with such research methods. Alternatively one could point out that research funds in CAM are very scarce [4,5], and that surveys are relatively inexpensive types of investigation. This, we believe, is a plausible explanation for the amazing plethora of surveys. Yet, such projects rarely answer the more pressing questions of efficacy and safety. CAM journals clearly suffer from a lack of clinical trial submissions.

In conclusion, we have shown that CAM journals suffer from several problems including a lack of clinical trials and a bias in favour of positive conclusions. There are some indications that CAM, within the time span covered by our evaluation, is developing into a mature field of clinical investigation.

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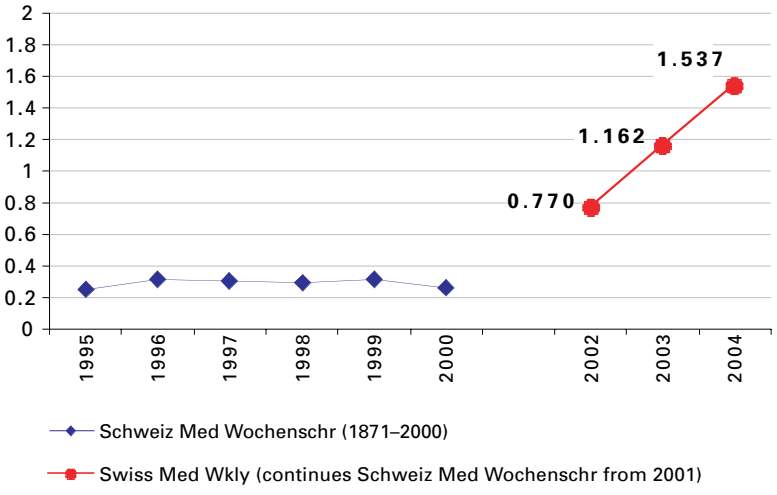


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