Complementary and Alternative Medicine

OVERVIEW OF COMPLEMENTARY AND ALTERNATIVE MEDICINE

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Abstract

The use of complementary and alternative medicine remains controversial, as it has arisen largely from systems that are apart from conventional medicine. However, complementary and alternative medicine is in widespread use in the community and this mandates that medical workers be educated. In particular, its potential interactions with prescribed medicines need to be discussed with patients. Complementary and alternative medicine is most often used to complement conventional therapy rather than as an alternative to it, and most often are directed at symptom relief. Some therapies have become mainstream, such as psychological therapies, and these have been demonstrated to improve quality of life. Other complementary and alternative medicines have been the subject of research. For example, ginger, acupuncture and hypnosis have all been shown to be effective in trials of their use with chemotherapy induced emesis. Studies of prayer, however, highlight the methodological challenges of researching complementary and alternative medicine. Patients’ perceptions of complementary and alternative medicines are firmly divided into those who use them as part of a holistic approach and those who reject them, usually on the basis that they are not curative. Little work has been done on the complex interactions with family over the use of complementary and alternative medicine, which can either be divisive or improve cohesion. Finally, the attempts to practise integrative medicine are analysed as a model for the way forward for patient centred care.

Definition

I don’t like the term CAM, but its use is widespread and understood. It would be better to use the broader term ‘therapies’ instead of ‘medicine’, since this term encompasses both medicine and other CAM, such as mind/body or energy treatments. The terms ‘complementary’ and ‘alternative’ do not describe a treatment but how it is used, since the same non-conventional therapy could be administered in addition to, or as a complement to traditional evidence-based medicine, or provided as an alternative to it. Conventional medicine practitioners may, in general, accept a treatment that is used to complement their treatments, but not substitute for them if there is no strong evidence base for the efficacy of the CAM. Once CAMs have been subjected to trials, some will have sufficient evidence of safety and efficacy to be chosen to integrate with conventional medicine, or even become considered as a conventional treatment.

Classification

There are several classification systems for CAM, such as the United States National Centre for Complementary and Alternative Medicine or the American Cancer Society.
classifications (Tables 1 and 2). They can be grouped by type of therapy, such as biological therapies including herbs, vitamins and dietary therapies, mind/body therapies such as prayer, music therapy or types of meditation and psychological therapies, energy therapies like Qi Gong or Reiki, or various manipulative therapies such as osteopathy or massage. Further classification by mechanism of action can be tried, but this is often unknown, both for treatments that were adopted into Western medicine empirically (as many early drugs were) and in the case of energy therapies, where the source of the energy is unrecognised in the West. Some have designated CAMs ‘natural’ therapies, but large doses of an herb or vitamin makes them pharmacological agents with quite ‘unnatural’ side-effects. Similarly, cytotoxics derived from plants, such as the vinca alkaloids or taxanes with their range of side-effects, would hardly be considered natural. CAM can also be classified as part of a system of therapy, such as Chinese medicine or Ayurvedic medicine, or in the West, homeopathy or naturopathy. Some psychological therapies such as cognitive behavioural therapy or mindfulness, have become classified as part of mainstream treatments, which is the focus of the review written by Koczvara, while other complementary practices such as prayer are sometimes excluded from both, despite it being widely practiced in relation to illness.

### Table 1: US National Centre for Complementary and Alternative Medicine Classification

<table>
<thead>
<tr>
<th>Whole Medical Systems</th>
<th>Mind-Body Medicine</th>
<th>Biologically Based Practices</th>
<th>Manipulative and Body-based Practices</th>
<th>Energy Therapies</th>
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<tbody>
<tr>
<td>Traditional Chinese Medicine</td>
<td>Meditation</td>
<td>Herbs</td>
<td>Massage</td>
<td>Acupuncture</td>
</tr>
<tr>
<td>Ayurveda</td>
<td>Prayer</td>
<td>Vitamins</td>
<td>Chiropractic</td>
<td>Reiki</td>
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<tr>
<td>Homeopathy</td>
<td>Art</td>
<td>Minerals</td>
<td>Osteopathic Manipulation</td>
<td>Qi Gong</td>
</tr>
<tr>
<td>Naturopathy</td>
<td>Music</td>
<td>Dietary Supplements</td>
<td>Therapeutic Touch)</td>
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<tr>
<td>Naturopathy</td>
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<td>Dietary Changes</td>
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### Table 2: American Cancer Society Classification

<table>
<thead>
<tr>
<th>Mind, Body and Spirit</th>
<th>Manual Healing and Physical Touch</th>
<th>Herbs, Vitamins and Minerals</th>
<th>Diet and Nutrition</th>
<th>Pharmacological and Biological Treatment</th>
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### Educating health professionals

Because of the widespread use of CAM health professionals need some knowledge of it, even if only to avoid interactions with conventional medicine. This is the issue that Hassed addresses in his paper. It is important that health professionals do not discourage patients from reporting CAM use, which will happen if patients perceive that their health professionals will disapprove. That is not say that conventional health professionals need sanction the use of CAM, but may use a discussion to outline their own evidence based approach. Patients will want to have guidance about CAM, given that there is so much information available to them on these treatments in the public domain. Keeping up with the research into CAM will also inform health professionals when there is sufficient evidence about a CAM treatment to warrant it being considered a conventional treatment option.

When CAMs are administered systemically, there is the possibility of interactions with conventional medicine. Many such potential harmful adverse interactions have not been studied, but particularly where CAMs are metabolised by the same enzymes as conventional medicines the chance of reduced efficacy or increased toxicity is high. Examples cited by Clarke in his paper, include St John’s wort or ginseng that may interact with drugs metabolised by CYP3A4, and guarana with agents that are CYP1A2 substrates. Pharmacodynamic interactions may occur between agents targeted at the oestrogen receptor in oestrogen receptor positive cancers and herbs containing phyto-oestrogens.

### Research

As part of integrating some CAM with conventional medicines, it is suggested that CAM be subjected to the same clinical research methodologies as conventional therapies which develop similar levels of evidence for benefits and risks. Some have been trialled, including trials on ginger for chemotherapy-induced nausea; acupuncture and hypnosis have been trialled for the same indication. The methodology of such trials can be challenging, as illustrated by Dhillon in her discussion of CAM research. It may be very difficult, for example, to find a placebo treatment to be adequately able to blind a study, as was discovered in trials of marijuana for nausea. Sometimes the paradigm on which the treatment is based may differ. For example, Western medicines derived from plants are developed by purifying the active agent, whereas Chinese medicines may derive activity from the combination of substances within a plant, which in turn makes the accuracy of dosing, sought in the West, difficult to achieve. The idea that metaphysical therapies, such as prayer, where the mechanism isn’t studied, can be subjected, or constrained, by randomisation has been hotly debated, as highlighted by Whitford in her paper on intercessory prayer.

It can be difficult to obtain funds for CAM research, although groups such as the National Health and Medical Research Council have of recent years earmarked money specifically for CAM research. However, that does not preclude careful observation and recording of the outcome of CAM usage, which may in turn provide the impetus for more widespread trials.
Integration

There are several centres being created where patients have the opportunity to integrate CAM with conventional medicine. The issues faced are reported in Pim's paper.²² What would be the advantage? Given CAM is in widespread use, it may strengthen the therapeutic relationship to be able to improve communication about CAM in a traditional centre and allow patients to pursue their individual choices in a controlled environment. It will reduce the chance of interactions and upskill clinicians. How then would the CAM to be integrated be chosen? It is not just a matter of choosing those which have been trialled and therefore can be also considered part of conventional medicine. One criterion must be that addition of the CAM is safe. The integrated centre will allow observation and recording of any benefit reported by patients of various CAMs, which will be apparent to both CAM and conventional medicine practitioners. The centre will also want to explore the credentials of any practitioner offering CAM.

Impact on patients and families

The impact of CAM on patients or their families has not been extensively studied and this is a topic reviewed by Eliott.²³ A qualitative study of how patients with cancer spoke about CAM revealed that there were two distinct groups.²⁴ Those patients who used CAM valued its perceived benefit in terms of their physical or psychological wellbeing, and saw it as part of holistic health care augmenting conventional treatments. They had to access CAM separately from the health system, hoping their doctors would support their using it. Non-users devalued CAM for their inability to cure and were critical of CAM use as challenging medical wisdom.

O’Callaghan in her paper reports that CAM use increases with time since diagnosis and specific groups who are more likely to use CAM can be identified (eg. younger and more highly educated women).²⁵²⁶²⁷ Most CAM use was for symptom control, with dietary supplements and meditation the most commonly used.²⁸ In families of patients with cancer, CAM use can be either well supported or a cause of friction, depending on the viewpoint and the success of CAM. There is little known about how families negotiate such treatment decisions.

Conclusion

The term CAM encompasses many therapies. Most are used as an adjunct to conventional medicines and most often by patients who use them to improve physical and psychological wellbeing. There are cancer centres seeking to integrate CAM into the treatment options available to patients. Although more research would be desirable to document, under controlled conditions, the benefits and toxicities of CAM, there are challenging design issues to be solved, particularly with CAM such as prayer. Certainly, there should be good documentation of the impact of CAM on the patients who report its use. More research is needed on why patients use CAM and the impact on their families.

CAM cannot be dismissed as natural and therefore without side-effects. Particularly problematic can be its interaction with conventional medicine. Given its widespread use, health professionals should be educated in the nature of CAM and facilitate discussion with patients about its use. This is turn is likely to enhance the quality of communication between patients and their practitioners. This collection of papers explores the evolution of CAM. A few have become conventional treatments, such as some psychological techniques, botanical drugs and physical therapies. The biological CAM interactions with conventional medicine are presented. The desirability of gaining more evidence about CAM is expressed, but the methodological challenges that these raise are exemplified by studies of prayer. Educating health professionals about CAM is important, given its widespread use, and being able to discuss CAM with patients may enhance the therapeutic relationship. What research exists on the perceptions of patients and their families about CAM use is presented. Finally, the concept and experience of integrating CAM and conventional medicine presents the challenge into the future.

References