

Complementary medicine: common misconceptions

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SUMMARY

Complementary medicine (CM), defined as health care which lies for the most part outside the mainstream of conventional medicine¹, is gaining popularity in Britain and elsewhere. In the UK the most prevalent therapies are manipulation (used by 36% of the population), herbalism (24%) homoeopathy (16%) and acupuncture (16%)². Due to the heterogeneity of CM, it is often problematic to generalize. The debate about the usefulness of CM is often regrettably emotional³, and thus unproductive. In the pursuit of a more fruitful way ahead, the following highlights some of the main arguments from both 'sides' and tries to disguise them as misconceptions.

ARGUMENTS USED AGAINST COMPLEMENTARY MEDICINE

Complementary medicine is unscientific while orthodoxy is scientific

Mainstream medicine is certainly, almost by definition, struggling to be scientific. Yet in historical terms the application of the scientific method to medicine is relatively young and by far not all the procedures of orthodoxy have sound scientific bases; it was estimated that about 85% of our current therapeutic repertoire do not fulfil this criterion⁴. Undoubtedly, the scientific foundations of complementary medicine (CM) are even more shaky than those of orthodoxy. To be fair, however, one ought to admit that, given the resources and the backing from the scientific community (or rather the lack of both), CM is more and more successfully struggling to become scientific with some noticeable success^{5,6}.

CM is known to be ineffective

This is possibly the most prevalent prejudice held against CM. Some approaches of CM have indeed been shown to be utterly wrong and of not specific worth to patients^{7,8}. Yet to generalize in the above manner is problematic, if not unscientific. As long as a remedy has not been tested, it cannot be labelled to be either effective or ineffective. Furthermore there are areas within CM which have demonstrated potential usefulness through randomized controlled trials^{5,6,9-11}.

The 'philosophies' of CM are so obviously wrong that scientific testing would be a waste of time

True, CM often lacks a sound theoretical basis and tends to substitute it by a 'philosophy'. Philosophies, like religions, cannot be proven right or wrong and are usually unscientific by nature. Thus, we probably rightly classify some of the philosophies of CM as myths. This, however, is not to say that the remedy associated with such a philosophy is useless. The history of medicine abounds with examples of therapies that were once used on the basis of a totally false rationale. Eventually the concepts were corrected and the therapy, which, of course, had to be effective to start with, became established for defined conditions¹².

CM is no more than a placebo

The apparent success of CM is puzzling for many mainstream doctors. On the assumption that CM is of no specific use (see above), its popularity is often said to be purely due to a powerful placebo effect¹³. This might be true in some cases, but again one cannot generalize. Several complementary remedies have specific actions, even to the extent that side-effects may become a problem^{14,15}. Both their effects and side-effects render certain complementary therapies highly unlikely candidates for pure placebos.

CM is used only by a small minority

This argument is employed to play down the importance of the issue in general: it may persuade some opponents of CM, yet it is wrong. In the USA, for example, there are now more consultations to providers of CM than to primary care physicians. In the UK about a quarter of the population is using at least one form of CM at any given time². The economic impact of CM is therefore enormous, some \$12

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billion are spent every year in the USA excluding the costs for drugs and literature¹⁶. There is evidence for a continuing trend for CM to grow¹⁷. Thus, there can be little question that CM is a factor to be considered seriously, in terms of potential good or bad for our patients and for our economies^{5,6,9,10,15,16}.

Orthodoxy has nothing to learn from CM

The reasons for people to consult complementary practitioners are complex and may range from disappointment with modern medicine to an inclination to mysticism¹⁸. Whatever they are, they represent a serious criticism to the content and style of today's mainstream medicine. It follows that orthodoxy might have a lesson to learn, a lesson about having time and empathy for the patient, about maximizing the placebo effect¹⁹, and about taking seriously even minor complaints. In a way this boils down to a revival of 'good doctoring' or decent 'bedside manners' which, many patients feel, have got lost in our modern 'high-tech' medicine.

ARGUMENTS USED IN FAVOUR OF CM

Effects of CM are proven

There is much literature to show that a given treatment changes certain body functions, i.e. acupuncture increases the level of endorphins²⁰. Usually, it is worth searching the literature for the opposite, i.e. acupuncture does not increase endorphins. Invariably one will be amazed at the discrepancy of opinions and results; selective quoting in overviews can dangerously distort the picture. More importantly, perhaps, such findings, even though important, do not suggest that the respective treatment helps in any clinical conditions. If endorphins are measurably changed through needling, this does by no means prove that pain can be alleviated by this procedure. One has to carefully separate 'effects' from 'effectiveness' when discussing CM. To be a useful treatment, each complementary remedy must be demonstrated to be clinically effective in defined conditions through randomized controlled trials, and these are still a rarity in the area of CM²¹.

All that really matters is to help the patient

This is surely the most frequent argument voiced by proponents of CM. At first glance it is disarmingly powerful. The aim to help our patients is said to justify (almost) any means, certainly those of CM. Particularly when dealing with conditions for which orthodoxy has not yet found a cure (and these seem to be the domain of CM), complementary remedies are claimed to be justified: if nothing else, they provide comfort and hope¹.

One must, however, point out that empathy and comfort should also be provided by mainstream doctors. False hope can be tragically deceiving.

The above 'utilitarian' argument is wrong also for further reasons. By just pretending that an effective specific treatment has been discovered, we would create a climate dangerously inhibitive of further fruitful inquiry. (Would we have discovered antibiotics for tuberculosis, if we had *all* been satisfied that fresh air was a cure?) Finally, if a person has once been helped by the placebo-effects associated with an otherwise ineffective method when suffering from a benign condition, is he/she not in danger of opting for the same form of treatment also when seriously ill?

Freedom in therapeutic choice must not be sacrificed

This may be true, but the notion can only apply to effective treatments. Remedies which are not effective are strictly speaking no medicine at all. The patient has the right to be treated with the most effective treatment for the condition in question: taking into account, of course, the balance between risks, benefit and costs. Freedom in therapeutic choice should not be confused with the arbitrary nature of choice^{17,20}.

CM is natural, hence harmless

Many lay people think so: some doctors and the majority of complementary practitioners would also support this notion. However, doctors and therapists *should* know better. There is no such a thing as a treatment without potential harm. CM can be directly harmful, for instance when a herbal drug is toxic or contaminated with a poisonous substance²². CM can, of course, also induce side effects and complications^{14,15}. Furthermore, it is hazardous when it prevents a proper diagnosis or effective (orthodox) therapy²³. Like any other therapy, it is definitely dangerous when used incompetently. Lastly it is harmful when it is needlessly wasting financial or other resources.

CM shows its worth every day

This notion is often voiced by practitioners of CM who (claim to) regularly see their patients getting better under their very eyes. Everyone (doctor or therapist) who attributes a clinical improvement solely to the therapy applied, is rooted in unscientific medicine and forgets other important elements that almost invariably play a role: the natural history of the disease, the regression towards the mean and the placebo effect^{13,19,24,25}. Thus, experience as to the effectiveness of a given treatment can be totally misleading. The negligence of this simple 'medical common sense' has probably created more quasi-religious

believers in unproven therapies (whether orthodox or complementary) than any other factor.

CM has stood the 'test of time'

True, some remedies have been around for thousands of years. Could our forefathers be so totally mistaken as to employ something useless for so long? The answer is YES. Take blood letting for instance: it was used for centuries as a panacea. Yet it only helps in very few diseases and most certainly has, during its history, killed more patients than it has ever helped²⁶. Moreover, the 'test of time' argument can easily be reversed: if therapy *xy* is known for such a long time, why has no-one yet come up with an acceptable proof for its effectiveness?

CM cannot or should not be tested scientifically

Several claims are made to underpin this deeply anti-scientific argument²⁷: Effects are too subtle to show up through the use of science's blunt instruments. Scientific medicine employs the wrong endpoints for the holistic concepts of CM. Individuals cannot be grouped (because they are unique). Placebo-controlled trials are unethical.

Even though there is an element of (mostly distorted) truth in some of these claims, one ought to state that orthodoxy has the same problems when trying to find the facts and that statistics have been invented *because* individuals react differently. There is no reason why any real benefit becomes invisible when a proper trial is set up in order to avoid various forms of bias²⁸. Published examples show that even a therapy as 'individualized' as homeopathy can be tested in randomized, placebo-controlled, double-blind trials^{5,9}. There is no therapy that cannot be formally tested in a randomized, controlled trial. Finally, endpoints like quality of life are used in mainstream medicine, and there is no reason why CM should reject this option.

Only CM concerns itself with the whole individual

The (w)holistic argument tries to separate CM from orthodoxy by a principal divide. Orthodoxy is said to be preoccupied merely with parts of an individual (i.e. organ, a symptom or even merely a laboratory value). CM is claimed to see the wider perspective of the entire individual including his/her surroundings, background psyche and spirit. Yet sociology, psychology, etc., are not inventions of CM. Lister has coined the 'first rule of good orthodox medical practice': put yourself in the patient's place, and Osler emphasized that what matters is not what sort of disease the patient has, but what sort of patient has the disease²⁸. The holistic attitude is thus not an invention of CM but fully integrated into (good) clinical practice. Its

extrapolation, namely that everything influences our well-being, is a truism that does not distinguish the important from the unimportant. Therefore it is unlikely to point to an efficient approach to identifying effective treatments. As stated above, mainstream medicine might be well advised to consider re-integrating the 'whole individual perspective' into its practice where it has been lost or forgotten.

CM helps to save money

Politicians seem to like this argument. In a time when costs are exploding, we all would like to save money within our health care systems. Clearly, however, the aspect of cost-effectiveness can only become an issue *after* effectiveness has been established²⁹⁻³⁹. Nothing that does not work is cheap, even if it costs little. Moreover, the price for CM is considerable both in absolute and relative terms, both for the individual and for the community¹⁶. Not surprisingly, therefore, the cost-effectiveness of CM has so far not been established convincingly.

CONCLUSIONS AND SUGGESTIONS

The topic of CM seems deeply entrenched in misconceptions which clearly are obstructive to meaningful advances in this complex area. At the same time, the subject of CM has become so important that it would be foolish of mainstream medicine to carry on ignoring it^{2,16,32}. Our patients demand CM from us. Where they cannot get it they help themselves by bypassing the medical profession. Huge amounts of resources are spent in this way^{2,16}, and we cannot be sure that CM is either safe or effective.

What then could be the way ahead? In my view there are several new routes:

(1) If we truly want to help our patients (and nobody without evidence to the contrary should doubt that either doctors or complementary therapists do), both 'sides' must free themselves from those deep-rooted prejudices. Neither over-enthusiastic belief^{27,33} nor stubborn disbelief³⁴ will help the patient or advance medicine.

(2) Both 'sides' should be aware of the relevant facts. Even this humble discussion shows that there is a lot to read. Proponents and opponents might consider discontinuing their habit of 'selective quotation' ignoring the facts that do not fit their arguments. Almost invariably there is more than one side to an argument, and it is well worth knowing them all.

(3) We urgently need more and better research into CM. It should systematically address its effectiveness, its safety and subsequently its cost-effectiveness.

(4) Without funds there will be no research. Thus, potential funding bodies might re-consider their policy of the past to support CM research to a nominal degree at best.

Solving the open questions will be neither easy nor fast. CM must therefore join forces with mainstream medicine to speed up this process³⁵. Enthusiastic devotion and scientific know-how provide the optimal mixture for fruitful investigation into the fundamental questions that we must not (foremost for the sake of our patients) allow to remain unanswered.

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