



## Medical Error and Medical Truth

The Placebo Effect and Room for Choice in Ayurveda

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## Abstract

I attempt to relativize allopathic medicine, or Modern Establishment Medicine (MEM), specifically in the context of the ayurvedic medical system of India, and to promote Daniel Moerman's concept of the medical "meaning response" as a preferable conceptualization of the phenomena usually subsumed under the name "placebo." Finally, I suggest that once these steps have been taken, a space opens up in which informed ayurvedic practice – indeed, any human activities aimed at promoting health – may find a valid place.

*Keywords: Ayurveda; India; medicine; alternative medicine; establishment medicine; placebo; meaning effect; iatrogenic death; Britain; National Health Service*

# Medical Error and Medical Truth

## The Placebo Effect and Room for Choice in Ayurveda

Dominik Wujastyk<sup>1</sup>

### 1. Case study

A professor at Trivandrum University, India, visited England as a guest lecturer not long ago. His schedule in England was quite demanding, including long-distance traveling and lecturing. Soon after his return to India, he moved his personal library from the ground floor of his house to an upstairs room. After carrying many books, he felt a pressure in his chest. The pressure became a pain, and it spread down his left arm. At first he thought he had just “pulled a muscle.” But then he thought he should consult a doctor. The Modern Establishment Medicine (MEM) doctor performed a simple examination and diagnosed a mild heart attack or angina. Medication was prescribed and more tests were recommended. The professor returned a few days later for these tests, which were quite expensive. A few days later still, he returned for the results. The doctor now recommended a full ECG and cardiac work-up. At this point, the professor decided that further tests would be prohibitively expensive. He also suspected that allopathic (MEM) doctors were in league with each other, and would continue recommending expensive tests in order to support each other’s practice.<sup>2</sup> So he did not pursue allopathic treatment for his symptoms any more, and turned instead to an ayurvedic doctor.<sup>3</sup>

The ayurvedic vaidya examined him and questioned him about his recent travel and the disturbance to his normal routines.<sup>4</sup> The vaidya then put him on a strict diet. He also recommended exercise in the form of yoga. The professor had formerly followed quite a strict diet in any case, and also practiced simple yoga, so these recommendations amounted to a reinforcement of his normal, and healthy, routines of daily life. The pain disappeared, and he felt well. He also emphasized, while telling this story, that he now felt in control of his life. He was taking charge of his health in a pro-active manner, and this satisfied him. He also felt pleased to have escaped from what he thought of as the money-grubbing MEM doctors.

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<sup>2</sup> An impression supported by the lack of any recommendation for such a work-up in the Merck Manual (Porter and Merck Research Laboratories 2011) and other standard clinical sources. I am grateful to an anonymous reviewer for this observation.

<sup>3</sup> For an introduction to ayurvedic medicine in a historical context, see Wujastyk 2003. Modern Establishment Medicine is routinely termed “allopathic medicine” in Indian English.

<sup>4</sup> The term “vaidya” means “doctor” in Sanskrit, and refers to an ayurvedically-trained physician.

As soon as I heard this account, I recognised that it illustrated some themes that I had been thinking about for some time. At the centre of medicine is the question of health. Is our professor going to survive? Has he got a serious heart condition? Is it dangerous for him to ignore the processes of Modern Establishment Medicine? Should he have continued with them, perhaps eventually having a heart-bypass operation? Is his sense of well-being and autonomy, his empowerment in regard to his health, illusory or real? I cannot answer all these questions, but I think that it is worth stating that the answers are not at all simple, and that for every obvious assumption – for example that heart surgery might be helpful – there are serious and strong counter-arguments.

Take, for example, the treatment which the professor received. He did not volunteer the name of the drug he was given, but it is likely to have been nitro-glycerine. This drug, dissolved under the tongue, had been commonly prescribed for angina, the pain that follows a reduction in the flow of blood to the heart muscle, since the second half of the nineteenth century. This treatment provides rapid and effective relief from angina pain. However, the medical anthropologist Daniel Moerman argued in 1979 that the mechanisms by which nitro-glycerine alleviates the symptoms of angina were not well understood. Its clinical use was well established, but in the mid-1970s MEM still offered *no convincing explanatory model for its effectiveness*.<sup>5</sup> What about surgery, the other chief treatment for angina pain? The normal reasons given for heart bypass surgery are that the procedure will increase the blood supply to the heart. This in turn will improve the health of the heart muscle, and will lead to prolonged life for the patient. In the same article, Moerman cited extensive and reliable scientific studies that show that none of these reasons is the case. The claimed revascularization of the heart muscle does not take place in 80% of patients. Furthermore, studies of the life-expectancy of patients after the procedure shows that there is, “no convincing evidence that survival is altered.”<sup>6</sup> The surgery does alleviate pain. But as Moerman trenchantly said, “while the surgery works, *it does not work for the reasons it is done*.” Moerman cited extensive scientific literature and debate in his 1979 article, especially that of Ross (1975), and some of that may have to be updated due to subsequent discovery. But his conclusion remains valid *as a claim concerning medical practice in 1979*. At that time, it was reasonable to argue that one of the flagship surgical procedures in modern establishment medicine was poorly understood and largely ineffectual in achieving its principle stated goal of prolonging life. The procedure did provide pain relief, but the explanatory conceptual model held by surgeons and patients to account for the relief appeared to be false. And in fact, more recent research has not greatly altered this picture. While MEM practitioners still continue to advocate bypass for symptomatic relief in several cases of angina, scientific evidence is lacking for improved patient outcomes beyond symptom relief.<sup>7</sup>

The argument here is not about MEM science as such, but about MEM practice, that is apparently sometimes divorced from underlying scientific forms of understanding or justification. This should sound familiar to those of us who – as outsiders to India’s indigenous medical system – study ayurveda. Here is a system that enjoys success in giving patients relief from a range of ailments, but whose explanatory mechanisms are hard or impossible

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5 Research in the late 1970s and 1980s revealed the mechanisms at work and the Nobel prize of 1998 was awarded to Furchgott, Ignarro and Murad ‘... for their discoveries concerning nitric oxide as a signalling molecule in the cardiovascular system’ (Marsh and Marsh 2000: 318). I am grateful to an anonymous reviewer for this reference.

6 Moerman 1979: 64, citing Ross 1975: 500.

7 Cassar *et al.* 2009: especially 1137ff. A study published in 2007 concluded that, “Based on the available data, it appears reasonable to conclude that for most patients ... there is no apparent survival benefit of CABGS [coronary artery bypass graft surgery] compared to medical therapy in stable CAD [coronary arterial disease] patients with angina. ” (Deedwania *et al.* 2007: I-16). I am again grateful to an anonymous reviewer for these references.

to justify. The point I am making is the same as Moerman's: patients and doctors alike, in all forms of medicine, participate in medical rituals and practical procedures based on metaphors that do not always bear scientific scrutiny.

In his more recent book, *Meaning, Medicine and the 'Placebo Effect'*, Moerman has further developed the concept of what he calls the 'meaning-response' to replace the term 'placebo' (Moerman 2002). By doing this, Moerman seeks to refocus the debate about medication and treatment in order to privilege *the recovery of patients* over the application of therapy. He provides much carefully evaluated statistical evidence that shows how patients become sick and well in response to the meanings of their experiences, which include actual chemical drug effects, but also a wide range of responses to the cultural, social and ultimately semiotic content of their experience. The fact is, patients get well for many reasons, only some of them connected with the therapies administered by doctors.

## II. Medical Error, Medical Truth

Patients often become ill as a result of Modern Establishment Medicine (MEM) therapies. It is now over thirty years since Illich delivered his famous thundering critique of MEM, with its ringing opening sentence:

The medical establishment has become a major threat to health. The disabling impact of professional control over medicine has reached the proportions of an epidemic.<sup>8</sup>

Illich claimed that at the time he wrote iatrogenic illnesses were causing between 60,000 to 140,000 deaths in America each year, and leaving two to five million others more or less seriously ill. Moreover, asserted Illich, the situation was worst at the heart of the medical establishment, in university hospitals where one in five patients contracted an iatrogenic disease which usually required special treatment and led to death in one case out of thirty. Iatrogenic disease has continued to be a major problem. The drug scandal surrounding Ciba-Geigy's Clioquinol, for example, reveals processes at work within MEM practice that run counter to the vision of MEM as a purely rational and science-based process. It took eight years from the clinical demonstration that Clioquinol caused subacute myelo-optic neuropathy for Ciba-Geigy to withdraw the drug. Even then, the company was not acting on the scientific evidence, but because of an international campaign against the drug by its victims and their doctors.<sup>9</sup> The mechanisms for self-scrutiny and self-regulation within the modern medical establishment are imperfect, with tragic consequences for many patients.

In 2000, the Institute of Medicine (IOM) in the USA published a report that has since become famous, *To Err is Human: Building a Safer Health System*.<sup>10</sup> The report brought to government and public attention the fact that

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<sup>8</sup> Illich 1976: 1.

<sup>9</sup> Shiva 1988: 251–53.

<sup>10</sup> Kohn *et al.* 2000.

people were dying in large numbers in American hospitals due to adverse events.<sup>11</sup> Extrapolating from local studies conducted in 1997 in Colorado and Utah and also New York, the IOM report stated that,

[...]the results of the study in Colorado and Utah imply that at least 44,000 Americans die each year as a result of medical errors. The results of the New York Study suggest the number may be as high as 98,000. Even when using the lower estimate, deaths due to medical errors exceed the number attributable to the 8th-leading cause of death. More people die in a given year as a result of medical errors than from motor vehicle accidents (43,458), breast cancer (42,297), or AIDS (16,516).<sup>12</sup>

These figures from 2000 are of the same order of magnitude as those produced by Illich in the 1970s, entirely vindicating his outrage at the loss of life taking place within the establishment medical services. The IOM report further noted the lack of public awareness of these statistics:

Yet silence surrounds this issue. For the most part, consumers believe they are protected. Media coverage has been limited to reporting of anecdotal cases.<sup>13</sup>

The IOM report presented a serious analysis of the medical errors behind these figures, and proposed several appropriate strategies for addressing their underlying causes. These strategies included creating more public knowledge about these issues, establishing institutional bases for patient safety, protecting error-reporting systems from legal discovery, setting standards and expectations, and designing safety systems for implementation in hospitals and clinics.

Just four years later, the *British Medical Journal* published a report by the then recently-formed National Patient Safety Agency on patient safety in the UK.<sup>14</sup> This agency draws together reports of errors regarding the safety of patients and systems-failures that are provided by health professionals across England and Wales. Their 2004 report noted that, incredibly for a country with about one fifth of the population of the USA,

It has been suggested that an estimated 850 000 medical errors occur in NHS hospitals every year resulting in 40 000 deaths.<sup>15</sup>

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<sup>11</sup> Adverse event: "patient injury caused by medical management rather than the patient's underlying condition" (Woodward *et al.* 2010: 480).

<sup>12</sup> Kohn *et al.* 2000: 1.

<sup>13</sup> Ibid.: 3. As an example of anecdotal reporting, at the time of writing the international press is mesmerised by the trial of Dr Conrad Murray for involuntary manslaughter in relation to the death of Michael Jackson ([http://en.wikipedia.org/wiki/The\\_People\\_v\\_Conrad\\_Robert\\_Murray](http://en.wikipedia.org/wiki/The_People_v_Conrad_Robert_Murray), consulted 10/2011).

<sup>14</sup> Aylin *et al.* 2004.

<sup>15</sup> These figures originate in research by Vincent *et al.* (2001) and Emslie (2001). I am grateful to Paul Aylin (personal communication, Sept. 2011) for this clarification and other corrections to this paper; any remaining errors are my own.

And yet only 4000 misadventures (as opposed to medical errors) were reported per annum, and only 2.2% of all hospital episodes contained any mention of an adverse event. The conclusion is stark: the medical profession was not being transparent with itself or with the public about the nature and extent of lethal error in its own practice.<sup>16</sup>

Estimates from a decade later seem to show that annual rates of medical error are still high, and that reporting inadequacies continue to make estimates difficult. Dr Foster Intelligence published a report in 2010 that estimated that in 2009/10, ‘more than 27,000 potential “adverse events” were reported’.<sup>17</sup> This is a great improvement in reporting from the 4000 annually reported misadventures reported a decade earlier, although being based on different criteria makes direct comparison difficult. The report noted that these figures were still incomplete because medical trusts in Britain differed in the quality of their information recording and reporting.<sup>18</sup>

Woodward *et al.* (2010) returned to many of the issues raised in the IOM *To Err is Human* report of 2000 with a view to quantifying and testing the effectiveness of the IOM strategies. Noting with unintended irony that, “Patient safety is a relatively new field”,<sup>19</sup> the report concluded that medical error reporting was still generally inadequate.

Perhaps the greatest obstacle, even when proven interventions exist, is successful implementation. Barriers to implementation include costs, institutional resistance, nervousness about the consequences, and the swift development of workarounds.<sup>20</sup>

These and similar findings show that parallel to the commitment to excellence and safety within MEM, there exists an all-too-human resistance to the reforms necessary to protect patients from iatrogenic injury and death.

Self-critical views based on such research findings about patient safety do not form part of the common criticisms of CAM that emerge from the medical establishment.<sup>21</sup> On the contrary, attacks against CAM commonly present MEM as a blameless paragon of medical safety. Thus, one recent attack of this type quotes with approbation the following triumphalist statement by the American Society of Anesthesiologists (ASA) made in 1973:

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<sup>16</sup> This is not necessarily through mendacity or malign intention, but is often due to the genuine difficulties of gathering appropriate statistical information and designing appropriate responses to it. See, e.g., Vincent *et al.* 2008.

<sup>17</sup> Kafetz 2010. Dr Foster Intelligence, a commercial company (see <http://drfosterintelligence.co.uk/>, consulted 10/2011), funds academic research at the Dr Foster Unit at Imperial College, London.

<sup>18</sup> Kafetz 2010: 30, citing Donaldson 2000: viii, 5.

<sup>19</sup> Woodward *et al.* 2010: 491. For an earlier view, see “I will prescribe regimens for the good of my patients according to my ability and my judgement and never do harm to anyone.” – The Hippocratic Oath.

<sup>20</sup> Woodward *et al.* 2010: 491.

<sup>21</sup> E.g., Singh and Ernst 2008: 182 ff..

The safety of American medicine has been built on the scientific evaluation of each technique before it becomes a widely accepted concept in medical practice.<sup>22</sup>

Forty years after this Whiggish assertion, the careful evaluation of Woodward *et al.* (2010:492) included the following two summary points:

- Medical errors and adverse events remain common across all health care systems.
- The evidence base for error prevention and harm reduction is weak for most proposed interventions, with significant potential for study bias.

In short, MEM remains lethally dangerous to a significant extent, and improvement is slow and spotty. Although the ASA's 1973 assertion looks impossibly naive in the light of contemporary safety research, it was still considered worth citing in 2008 as part of Singh and Ernst's extended critique of CAM based on the idea that CAM is dangerous when compared with MEM.

Attacks against CAM from within the medical establishment typically also make great play on issues of proof of medical efficacy.<sup>23</sup> Yet, the editor of the *British Medical Journal* noted in 1991 that 'only about 15% of medical interventions are supported by solid scientific evidence,' and that 'only 1% of the articles in medical journals are scientifically sound'.<sup>24</sup>

In sum, it is commonly the case that critiques of CAM from within the modern medical establishment are insufficiently self-aware or self-critical concerning the failings, difficulties and dangers that exist within the MEM. This is not to say that CAM critiques of MEM are any better. However, in most countries there is a steep power-gradient in place between these two systems of medicine, with MEM by definition controlling almost all resources and most channels of public information.

The processes at work within MEM are complex and strongly influenced by issues of finance, corporate culture and, above all, politics. When a government uses one set of medical professionals – MEM – to regulate another – CAM –, as is happening in Britain, we may recall another of Illich's trenchant passages:

[...] the insistence of the medical guild on its unique qualifications to cure medicine itself is based on an illusion. Professional power is the result of a political delegation of autonomous authority to the health occupations which was enacted during our [twentieth] century by other sectors of the university-trained bourgeoisie: it cannot now be revoked by those who conceded it; it can only be de-legitimized by popular agreement about the malignancy of this power.<sup>25</sup>

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<sup>22</sup> Unreferenced citation in Singh and Ernst 2008: 50.

<sup>23</sup> *Ibid.*, *passim*.

<sup>24</sup> Smith 1991. For further informed discussion see Horton 2003.

<sup>25</sup> Illich 1976: 14.



The work of Britain's National Patient Safety Agency shows that there is an incontestable case for practitioners of MEM to put their own house in order, to admit and integrate the now-public fact that one in ten people entering hospital will experience a medical error, and that half of these errors are preventable.<sup>26</sup> As pointed out by the IOM over decade ago, it is only when the dangers and failures of MEM practice are honestly faced that improvement in safety begin.

All this does not, of course, automatically mean that CAM practice, or traditional medical systems such as ayurveda, are good, whatever we may mean by "good." But it does mean that naive arguments against the safety and effectiveness of CAM based on an assumed contrast with MEM can no longer be taken seriously.

Arguments concerning the pervasiveness of iatrogenic disease in MEM and the primacy of guild politics in the control of public medicine have been with us for a long time. If these are given due consideration, then medical authorities and practitioners might be expected to show greater interest in evaluating a wider range of safe therapies, including meaning-responses (placebos), as an important and valuable element of healing, rather than repeatedly citing the placebo effect as the very paradigm of bad medicine. The meaning-response, or placebo, demonstrably produces wellness in many patients, both in MEM as well as in CAM. If the aim of medicine is to cure patients, then it is hard to see why the meaning-response is so often cast as the epitome of poor medicine. This is a large and subtle subject, raising many difficulties. But it has to be said that much of the current public debate about counter-hegemonic medical systems – such as ayurveda, acupuncture or homoeopathy – is strikingly unsophisticated concerning matters that have been the staple of medical anthropologists, medical sociologists, and medical philosophers since the 1960s.<sup>27</sup> These include not only matters concerning the placebo effect, but meta-issues concerning the whole process of medical professionalization and modernization, the nature and definition of the illness experience, power relationships, and cultural factors in general.<sup>28</sup>

In deciding that he would follow the informed advice of his ayurvedic physician, the professor with whom I opened this presentation made a decision to follow a regime whose metaphors had meaning for him, and which give him a sense of participating in a process which will be effective for reasons that he understands and believes in. This greatly enhanced his compliance with the medical advice he received, and has led to the relief of his symptoms. He is currently enjoying good health and is following a fairly demanding daily regime of diet and appropriate exercise that would be equally recommended by any MEM practitioner. His optimism and sense of self-determination are palpable. It is not my place to claim that his decision to follow ayurvedic treatment is the best thing for his health in the long run. But I do hope that the case study and the arguments presented above show convincingly that any simplistic assertions about the superiority of MEM practice in such cases are not necessarily a good basis for judgement. A space exists for ayurveda.

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<sup>26</sup> Woodward *et al.* (2010) provide parallel arguments focussed on data from the USA.

<sup>27</sup> I owe the term "counter-hegemonic" to Ramsey (1999). It identifies the centrality of political power relationships in defining medical systems that stand outside the medical establishment. It improves on terms that are only partially appropriate, such as scientific, western, eastern, complementary, alternative, traditional, etc.

<sup>28</sup> I am grateful to Dr. Madhulika Banerjee for several illuminating conversations on the above topics; see Banerjee 2002, 2004, 2009.

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