Accepted Manuscript of an article published in the European Journal for Person Centered Healthcare

Newell, D. and Lewith, G., 2016. Alternative, complementary or orthodox: What is real medicine? European Journal for Person Centered Healthcare, 4 (3), 5. Available online: http://dx.doi.org/10.5750/ejpch.v4i3.1131

Alternative, Complementary or Orthodox: What is *real* medicine?

Dave Newell* PhD FRCC [Hon] FEAC and George Lewith¥ MD FRCP, MRCGP

* Corresponding author; Director of Research, Anglo European College of Chiropractic 13-14 Parkwood Road, Bournemouth, BH5 2DF, Tel: 01202 436207, E mail: dnewell@aecc.ac.uk

¥ Prof of Health Research in Primary Care at the University of Southampton: Email: gl3@soton.ac.uk

Key Words: Orthodox, CAM, Alternative, Legitimacy

Running Header: What is *real* medicine

Abstract

The division between orthodox and CAM approaches to musculoskeletal (MSK) problems is blurred. Manipulative medicine and acupuncture are recognized treatment options for some MSK conditions. These therapies are increasingly evidence based with well-defined mechanisms and are provided by a number of registered professional practitioners, whose ethics and practice is overseen and ultimately regulated, by the Professional Standards Authority. Some practitioners may be considered historically as CAM providers (Osteopaths, Chiropractors and Acupuncturists) and some orthodox practitioners (Physiotherapists and Doctors). If both CAM and orthodox practitioners are providing the same therapies for the same conditions, we believe that this represents good evidence based medical practice. Consequently in this situation, the historical and artificial boundaries between CAM and orthodox medicine cease to be meaningful either clinically or ethically. We should reasonably assume that CAM and orthodox practitioners, in this context, are practicing ethically.

Introduction

A historical perspective

The origins of medicine represent a fascinating and symbiotic relationship with human social and cultural evolution. Initially forged in the magic of the shaman and mysticism of astrology and now in the early 21st century firmly professionalized and enlighten by modern scientific development. Modern medicine draws its cultural and legislative authority, in the UK, from the establishment of the general medical council in 1858 and the subsequent statutory regulation. This involved a process of gathering a diverse set of ideas and interventions to categorise 'proper doctors' and 'quacks' through an act of Parliament and a university based educational process. It evolved in spite of the fact that it was often difficult to differentiate the day-to-day techniques of lay practice from that of a properly qualified professional in the mid19th century. This development was partially to protect medical fee income but also to enable the development of modern, evidence based, scientific medicine. The detailed history of this process is beyond the scope of this article but it is long, tortuous and replete with conflict around what is orthodox and alternative. Much of modern medical science is relatively recent with most medical advances appearing in the 19th and 20th centuries. An interesting and illustrative point is that although many claim that the first randomised controlled trial was published by Bradford Hill in 1948 it is well documented that French and German homeopaths were already using this investigative technique in the early 1830's [1] So even as modern scientific thinking was becoming an essential part of academic medical practice it remains a complex task to differentiate the conventional from the alternative!

While the legitimisation of medicine emerged from the legislation enacted by most developed nations during the 19th century "official" medicine was embedded through emergent state and scientific associations as a delimited and partly protected entity [2]. Against such historical legitimacy alternative and latterly complementary medicine is conceptualized as non-legitimate medicine [3] with varying and changeable definitions.

Current definitions.

The Cochrane definition of complementary and Alternative Medicine [CAM] was developed in 2011 [4] and states;

'CAM is a broad domain of healing resources that encompasses all health systems, modalities, and practices and their accompanying theories and beliefs, other than those intrinsic to the politically dominant health system of a particular society or culture in a given historical period. CAM includes all such practices and ideas self-defined by their users as preventing or treating illness or promoting health and well-being. Boundaries within CAM and between the CAM domain and that of the dominant system are not always sharp or fixed.'

This definition illustrates the impossibility of defining CAM internationally and consistently as a unique set of medical systems and therapies. In China Traditional Chinese medicine [TCM] could be viewed as orthodox practice according to Weiland. Strident voices in China see TCM as second rate, unscientific and outside mainstream medicine suggesting conflict is rampant everywhere medicine is practiced.

How is Complementary and Alternative medicine viewed by orthodox practice?

Lord Walton's 2001 report from the House of Lords Science and Technology committee divided CAM approaches into three groups with the big 5 appearing in Group 1 [Herbal Medicine, Acupuncture, Osteopathy, Chiropractic and Homeopathy] [5]. The report described this group of 5 thus:

'The first group embraces what may be called the principal disciplines, two of which, osteopathy and chiropractic, are already regulated in their professional activity and education by Acts of Parliament. The others are acupuncture, herbal medicine and homeopathy. Our evidence has indicated that each of these therapies claim to have an individual diagnostic approach and that these therapies are seen as the 'Big 5' by most of the CAM world'

Discussion

The ethics of 'legitimate' medical practice

The main contention of this paper is that, with respect to the treatment of musculoskeletal conditions (MSK), it would be reasonable to argue that chiropractic, osteopathy and acupuncture are legitimate medical interventions with an emergent evidence base.

The issue of ethics is no different from the issues faced by all regulated medical approaches in the UK as provided by disciplines such as physiotherapy or nursing. The Chiropractic and Osteopathic professions are statutorily regulated and all [including acupuncture as practiced by a variety of medical providers] fall under the remit of the Professional Standards Authority (PSA) in the same way as the GMC. They comprise the 'governed and statutory' practices of ethical medicine so are legitimized not only through their apparent evidence base but also through the appropriate legislative state sponsored bureaucracy. Our contention is that there is no particular ethical issues unique to such professions, as they should all fall within the remit of good ethical medical practice. The PSA is mandated to ensure that does indeed happen.

Training and practice for Chiropractic and Osteopathy

Manipulation, along with a number of other evidenced based interventions, are central to both of these professions and clinically relevant to the management of low back pain. A survey of patients in North America concerning the types of conditions that patients seek chiropractic and osteopathic care found that over 70% of patients sought care for back or neck pain from chiropractors [6] and a similar figure for MSK related problems in UK osteopaths [7]. The presence of back pain in the UK among those not involved in manual labour were the strongest predictors of consultation with both types of practitioner [8]. The MSK focus of the majority of these professions and the use of manipulation as an important intervention is the same as for physiotherapists; manipulation and acupuncture are part of standard physiotherapy practice thus transcending the artificial and meaningless boundaries of CAM and orthodox practice. The musculoskeletal association of chartered physiotherapists [MACP] state on their website that; '*In the UK the MACP is recognized as the specialist manipulative therapy group by the International Federation of Orthopaedic Manipulative Physical Therapists (IFOMPT)'.* These physiotherapists number 1000, around 45% of the number of registered UK chiropractors. Furthermore, a recent systematic review of the use of manipulation for low back pain as performed by physiotherapists suggest favorable results for the manipulation group with minimal side effects [9]. Lastly at least one European guideline for physiotherapists also directly recommends manipulation for low back pain as a potential treatment approach [10]

Given that physiotherapy is embedded firmly within medical orthodoxy and yet is routinely providing treatment modalities that constitute the mainstay of 2 other professions that are also statutorily regulated but considered to be effectively outside orthodox medicine and furthermore, is publishing research illustrating the efficacy of such approaches in MSK, it appears self-evident that there is a case to be answered for continuing to categorise these professions as respectively fringe and mainstream!

Mary Ruggie [11], in her book '*Understanding CAM*: T*he power of knowledge and the power of words'* states in her introduction;

'Many of the therapies housed under the rubric of CAM are not new in the United States. In the 19th century and into the early years of the 20th century, practices that we would now consider alternative flourished. Some of these therapies have persisted, and some, such as osteopathy and chiropractic, have even been legitimized. However, the present practice of these two modalities barely resembles their common roots in bone setting. Other therapies – nostrums and secret potions, exorcism, and mesmerism – fell out of favor long ago. The same is true of medicine. Certain centuries-old methods of diagnosis and treatment used by medical professionals have also experienced lasting value, whereas others have not withstood the test of time. Physicians still examine a patient's temperature to ascertain the presence of infection. They no longer, however, subject patients to bloodletting, purging with calomel, or dosing with strychnine [the latter for post-surgery patients], to name a few.'

Further major critique leveled against these professions and meant to differentiate from orthodox medicine come under three broad headings; a lack of an evidence based approach in training, absence of clinical evidence over and above placebo [with a dismissal of placebo effects as not legitimate] and the persistence of a vitalistic stance in terms of explanation of any efficacy shown. As argued below we contend that these conjectures are at the least misguided or more conspiratorially, misrepresentative.

Chiropractors and Osteopaths both undergo extensive training often to Master's level with the major educational establishments providing education that is evidenced based and MSK focused. These schools are embedded in the Higher Educational sector and as such are subject to extensive regulation from the Quality Assurance Agency for Higher Education (QAA) as well as professional regulation and accreditation by the General Chiropractic Council and General Osteopathic Council as well as at a European level for chiropractic education by the European Council on Chiropractic Education (ECCE)

A cursory glance at the curriculum of most chiropractic and osteopathic mainstream educational institutions indicates considerable content oriented toward an evidenced based practice and basic biosciences. It is certainly true that a small minority within both professions still profess an approach historically tethered to vitalistic tenants as evangelised during the origins of the professions. However, a recent survey suggest that the

proportion of Canadian chiropractors holding unorthodox views is less than 20% leading to the conclusion that only a minority retain ideas that might contradict the current scientific paradigm of practice [12]. Furthermore, a study in Canada indicated that such unorthodox views were associated with US training institutions that strategically perpetuate unorthodoxy and are exclusively in the private sector. [13]. European chiropractic institutions, in contrast are embedded in the mainstream university sector with both the Danish and Swiss programs training alongside medical students. Within this educational environment, an evidence-based paradigm is central and Vitalism is entirely absent.

The evidence?

Recent systematic reviews have unequivocally demonstrated that manipulation and acupuncture have effects over and above placebo [14-17]. Mechanisms for manipulation have been identified which are consistent with clinical outcomes as [18-20]. With both efficacy and mechanism developing an evidence-base there is clearly emergent evidence to support such interventions in practice.

Conversely, it is well documented that orthodox medicine is deficient when evidence based practice is carefully examined especially in the context of primary care. Every six months BMJ Clinical Evidence [21] undertake a review of around 3000 different medical interventions dividing their effectiveness into categories. Having acknowledged the subjectivity of these divisions the most recent analysis found that 42% of these treatments were either beneficial, likely to be beneficial or were a tradeoff between benefit and harm. However, 50% were deemed to have unknown effectiveness with 12% of the unknown group unlikely to be beneficial or possibly even harmful. In the context of such controversial data, one might speculate that the evidence presented for manipulation and acupuncture is relatively positive. It seems disingenuous at least, given the evidence for orthodox medicine for back pain and the evidence and approval from august institutions such as NICE for manipulation and acupuncture, to consider these approaches to be categorized as CAM rather than orthodox evidence-based medicine.

The context of treatment, particularly for more chronic conditions such as back pain, is key in eliciting clinical and meaningful change. There is a strong case for all medical practitioners to be both aware of, and expert in, maximizing non-specific responses as well as specific effects [22]. Indeed this case was made recently for the chiropractic approach to care [23] . A recognition of the importance of such contextual effects is self-evident from the primary care literature with recent surveys in both Germany and the UK suggesting that GPs regularly use placebo interventions [24-26] with this intention very much in mind.

The arguments

What is *real* medicine?

The implicit arguments put forward by those who feel that CAM is unethical include suggestions that;

CAM therapies are not evidence based and are all placebos

The emergent evidence for this would suggest that this is a substantial misrepresentation of the facts in relation to manipulation and acupuncture in the treatment of back pain. It is quite likely that CAM as a whole may be better at eliciting non-specific effects than orthodox medicine. Perhaps there is much to learn from CAM about how to maximize the therapeutic interaction in orthodox medicine?

Delivering treatments that implicitly claim to have specific effects while the clinician knows that strong evidence exists that the intervention is ineffective is not an ethical way to practice medicine. In the light of the evidence available about the treatment of acute upper and lower respiratory tract infections, and the dangerous and much publicised increase in antimicrobial resistance, this might suggest that the vast majority of general practitioners in the UK are practicing unethically and indeed could be public health hazard [27, 28]

CAM therapies expound non-mechanistic or non-material explanations

This is a matter of history for the practice of all medicine. One might consider the argument is now one of; do these interventions ONLY have a non-material vitalistic explanation of mechanism or has a biologically plausible explanation [with or without empirical support] emerged. Acupuncture and manipulation do not require vitalistic explanations to operate safely and effectively through known plausible mechanisms in the management of low back pain

Conclusion

Is all CAM practice uniquely unethical? What is different between the approaches taken by chiropractors, osteopaths and acupuncturists to MSK conditions that might be the basis of considering them CAM? In this respect the contention taken here has considerable overlap with Tyremans' article where he states in his conclusion;

'*Despite the fact that there are different emphases there is a question of whether the distinction between CAM and (Conventional and Orthodox medicine] [COM] is still defendable. This is as much an issue for CAM trying to establish its identity as for COM coming to terms with embracing different health ideas*' [29]

The practice of and education of chiropractic, osteopathy and acupuncture is firmly within a scientific and evidenced based orthodox paradigm. Furthermore, the evidence for the specific and non-specific effects associated with the package of care provided by these professions is at least

as robust as many orthodox medical procedures. In addition, physiotherapists and doctors, as orthodox medical practitioners, provide both manipulation and acupuncture. How then are these professions orthodox and ethical when chiropractic, osteopathy and acupuncture are not?

Perhaps CAM is more successful in enhancing contextual and other non-specific effects where patient centered and individualized approaches frequently emphasized by CAM practitioners amplifies such phenomena in practice[30]

As a contrasting conjecture, medicine's justifiable embracing of technology in the last 50 years may have inadvertently resulted in the marginialisation of the act of caring. The deceptively simple albeit powerful effects engendered by compassion and empathy for another human is in danger of being lost from orthodox medicine even though there are clear biological mechanisms attesting to the safe and impactful clinical effects of augmenting such interactions within the therapeutic environment [31]. Orthodox medicine seems all too often to be bereft of the time and resources to care. Consequently, in the context of MSK, other approaches have emerged which in addition to evidenced specific effects also offer the time and ability to ethically provide the care that medicine used to!

There is no ethical alternative to good evidence based medicine. There is undoubtedly, based on this perspective, unethical practice throughout medicine. The false differentiation between CAM and orthodox medicine serves to confuse primarily because in so many instances it is impossible to identify the division between these two ethical approaches. Whether a specific therapy is called alternative, complimentary or orthodox is surely a game of semantics and as far as the evidence based management of MSK problems is concerned, an obfuscating one at that!

References

[1] Dean M. A (2000)homeopathic origin for placebo controls: 'An invaluable gift of God'. Alternative Therapies in Health and Medicine.; 6:58–66

[2] Pickstone J. (2006) "Medicine, Society and the State", in Roy Porter, The Cambridge History of Medicine. New York: Cambridge University Press, pp. 260–97

[3] Ramsey, M. (1999) Alternative Medicine in Modern France. Medical history. 43 [3]: 286–322,

[4] Wieland LS, Manheimer E, Berman BM. (2011) Development and classification of an operational definition of complementary and alternative medicine for the Cochrane collaboration. Altern Ther Health Med. 17[2]: 50–9.

[5] House of Lords Select Committee on Science and Technology. London: The Stationary Office; (2000) Complementary and Alternative Medicine. Session 1999–2000 6th Report.
[6] Coulter I, Hurwitz E, Adams, Genovese B, Hays R and; Shekelle P. (2002) Patients Using Chiropractors in North America: Who Are They, and Why Are They in Chiropractic Care? Spine. 27[3]: 291-297
[7] Fawkes CA, Leach C, Mathias S, Moore A. (2014) A profile of osteopathic care in private practices in the United Kingdom: A national pilot using standardised data collection. Manual Therapy; Apr 1;19[2]:125–30.
[8] Ong CK, Doll H, Bodeker G, Stewart Brown S. (2004) Use of osteopathic or chiropractic services among people with back pain: a UK population survey. Health & Social Care in the Community. 12[3]: 265–73.
[9] Kuczynski JJ, Schwieterman B. (2012) Effectiveness of physical therapist administered spinal manipulation for the treatment of low back pain: a systematic review of the literature. Physical therapy.
[10] Staal, J, HendriksII E, Heijmans M, Kiers H, Lutgers-Boomsma A, Rutten G, van Tulder M, den Boer J, Ostelo J, Custers J. (2014) *KNGF Clinical Practice Guideline for Physical Therapy in patients with low back pain*. Royal Dutch Society for Physical Therapy [Koninklijk Nederlands Genootschap voor Fysiotherapie, KNGF]
[11] Ruggie, M. [2004]. Understanding CAM: The Problem of Knowledge and the Power of Words. In: Marginal to Mainstream. pp. 19-42.
[12] McGregor M, Puhl AA, Reinhart C, Injeyan HS, Soave D. (2014) Differentiating intraprofessional attitudes toward paradigms in health care delivery among chiropractic factions: results from a randomly sampled survey. BMC Complement Altern Med. BMC Complementary and Alternative Medicine; 14[1]:1–8.
[13] Puhl A, Reinhart C, Doan J, McGregor M and Injeyan. (2014) Relationship Between Chiropractic Teaching Institutions and Practice Characteristics Among Canadian Doctors of Chiropractic: A Random Sample Survey. Journal of Manipulative and Physiological Therapeutics. National University of Health Sciences; 37[9]: 709–18.
[14] Machado LAC, Kamper SJ, Herbert RD, Maher CG, McAuley JH. (2009) Analgesic effects of treatments for non-specific low back pain: a meta-analysis of placebo-controlled randomized trials. Rheumatology. Oxford University Press; May; 48[5]: 520–7.
[15] Scholten-Peeters GG, Thoomes E, Konings S, Beijer M, Verkerk K, Koes BW, et al. (2013) Is manipulative therapy more effective than sham manipulation in adults?: a systematic review and meta-analysis. Chiropractic & Manual Therapies. Chiropractic & Manual Therapies; 21[1]: 1–1.
[16] Licciardone JC, Brimhall AK, King LN. (2005) Osteopathic manipulative treatment for low back pain: a systematic review and meta-analysis of randomized controlled trials. BMC Musculoskelet Disord. BioMed Central Ltd; 6[1]: 43.
[17] Vickers AJ, Cronin AM, Maschino AC, Lewith G, MacPherson H, Foster NE, et al. (2012) Acupuncture for Chronic Pain. Arch Intern Med.

American Medical Association; 172[19]: 1444–53.
[18] Millan M, Leboeuf-Yde C, Budgell B, Amorim M-A. (2012) The effect of spinal manipulative therapy on experimentally induced pain: a systematic literature review. Chiropractic & Manual Therapies. Chiropractic & Manual Therapies; 20[1]: 1–1.
[19] Bialosky JE, Bishop MD, Price DD, Robinson ME, George SZ. (2009) The mechanisms of manual therapy in the treatment of musculoskeletal pain: a comprehensive model. Manual Therapy. Elsevier; 14[5]: 531–8.
[20] Kawakita K, Okada K. (2014) Acupuncture therapy: mechanism of action, efficacy, and safety: a potential intervention for psychogenic disorders? Biopsychosoc Med. BioMed Central Ltd; 8[1]: 4.
[21] Clinical Evidence Efficacy Categorisations. Clinical Evidence. URL: http://clinicalevidence.bmj.com/x/set/static/cms/efficacy-categorisations.html [Accessed 1st January, 2014].
[22] Mora MS, Nestoriuc Y, Rief W. (2011) Lessons learned from placebo groups in antidepressant trials. Philosophical Transactions of the Royal Society B: Biological Sciences. 366[1572]: 1879–88.
[23] Bialosky JE, Bishop MD, George SZ, Robinson ME. (2011) Placebo response to manual therapy: something out of nothing? J Man Manip Ther. 19[1]: 11–9.
[24] Fässler M, Gnädinger M, Rosemann T, Biller-Andorno N. (2011) Placebo interventions in practice: a questionnaire survey on the attitudes of patients and physicians. br j gen pract. 61[583]:101–7.
[25] Meissner K, Hofner L, Fassler M, Linde K. (2012) Widespread use of pure and impure placebo interventions by GPs in Germany. Family Practice. 29[1]: 79–85.
[26] Howick J, Bishop FL, Heneghan C, Wolstenholme J, Stevens S, Hobbs FDR, et al. (2013) Placebo Use in the United Kingdom: Results from a National Survey of Primary Care Practitioners. Manchikanti L, editor. PLoS ONE. 8[3]: e58247.
[27] Lewith G, Barlow F, Eyles C, Flower A, Hall S, Hopwood V, Walker J. (2009) The Context and Meaning of Placebos for Complementary Medicine. Forsch Komplementmed 16:404-412
[28] Brien S, Lachance L, Prescott P, McDermott C, Lewith G. (2011) Homeopathy has clinical benefits in rheumatoid arthritis patients that are attributable to the consultation process but not the homeopathic remedy: a randomized controlled clinical trial. Rheumatology. Oxford University Press; 50[6]: 1070–82.
[29] Tyreman S. (2011) Values in complementary and alternative medicine. Med Health Care and Philos; 14:209–217
[30] Brien SB, Leydon GM, Lewith G. (2012) Homeopathy enables rheumatoid arthritis patients to cope with their chronic ill health: A qualitative study of patient's perceptions of the homeopathic consultation. Patient Education and Counseling. Elsevier Ireland Ltd; 89[3]: 507–16.
[31] Brien SB, Bishop FL, Riggs K, Stevenson D, Freire V, Lewith G. (2011) Integrated medicine in the management of chronic illness: a qualitative study. br j gen pract. 61[583]: 89–96.