COMMENTARY: IS EBM DAMAGING THE SOCIAL CONSCIENCE OF CHIROPRACTIC?

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ABSTRACT

Introduction: One expression of the social conscience of chiropractic is the provision by chiropractic educational institutions of low-cost or free chiropractic care to disadvantaged communities. It is expected that institutions offer to all patients the same full standard of care that is the hallmark of traditional chiropractic.

Objective: To explore whether an observed schism occurring within chiropractic education, where a minority of institutions are minimising the major premise of the discipline and replacing it with an emphasis on only the science or literature component of the evidence-based triad, has any potential impact on the quality of care provided particularly within the charitable context.

Data Sources and Synthesis: The indexed literature supplemented by informal literature, news reports, URLs identified by on-line searching, personal communication and key informants. A contextual narrative identifies themes which combine to suggest the healing component of the chiropractic encounter may be compromised. Concern is also expressed that students in those institutions which have removed the major premise of chiropractic from their curriculum may experience compromise in their learning which may negatively impact patient care.

Conclusion: The social conscience of chiropractic may be compromised by undue emphasis on science and the relegation of traditional concepts as historical artefacts. Academic chiropractors seem yet to address potential consequences. (Chiropr J Australia 2016;44:203-213)

Key Indexing Terms: Chiropractic; Medical History; Evidence-Based Practice

INTRODUCTION

The general understanding of social conscience is being aware of problems that affect people in society and involves an attitude of sensitivity and responsibility toward them. This is typically reflected in chiropractic educational programs by offering lower cost healthcare to the public through an on-campus clinic and ‘gold-coin’ or other donation system for care delivered in outreach clinics. These may include missionary-style visits to remote communities in other countries. It is thought that academic and clinical chiropractors may best lead students by example. A relevant question that arises is how a social conscience to do good is enacted, in particular for chiropractic students, and whether it is by application of the major premise of chiropractic which includes a contemporary concept of subluxation or by a mode of chiropractic that excludes subluxation on the basis it is not evidence-based?

Evidence-based medicine (EBM) was conceptualised in mid-19th century Paris and given life by Sackett in the 1990s as a mechanism to formalise science within the healing

equation between the practitioner and the patient.(1) Over the past decade some academic chiropractors have placed increasing emphasis on the science component to the detriment of the others. The discipline of chiropractic was founded about a century ago from medical concepts first reported in the early 19th century. Its major premise holds that small dysfunctions between vertebrae loosely considered 'subluxations' may effect neurophysiological change that may be corrected by targeted therapeutic input considered as the 'chiropractic adjustment.'

Globally there are today some 46 or so universities and institutions which teach the discipline (2) and I believe a schism is occurring among them. This paper does not attempt to determine the growth point at which any health discipline becomes large enough to diverge in its teachings; rather, it is a reflection on an observed divergence and an attempt to narrate underlying factors that render such a divergence of value or not. The core question is the extent to which this divergence may damage the social conscience of chiropractic as enacted by the provision of care for less-privileged patients within a globally accepted healthcare profession.

The European Communiqué

Some European chiropractic institutions issued a communiqué (3) at the 2015 scientific meeting conducted by the World Federation of Chiropractic in Athens. (4) The communiqué includes the statement:

The teaching of vertebral subluxation complex as a vitalistic construct that claims that it is the cause of disease is unsupported by evidence. Its inclusion in a modern chiropractic curriculum in anything other than an historical context is therefore inappropriate and unnecessary. (3)

The implications of the position promulgated in their document deserve close scrutiny.

Historical Perspective

Any student of chiropractic history would appreciate that the concept of vertebral subluxation did not originate with DD Palmer. The record could not be more clear when it attributes the term to an English medical physician, Edward Harrison, who in his paper (5) and also his medical text published in the 1820s (6) identified small irregularities in spinal function as 'subluxations.' To his credit, Harrison also identified such subluxations as being associated with various health disorders. It is fair to say that given the diagnostic knowledge of the time the disorders were essentially observable changes in structural spinal characteristics with some indication of functional changes in a whole body sense. It is therefore an incorrect premise to argue that subluxation is a uniquely chiropractic descriptor developed by Palmer. It is true to state Palmer took this knowledge and developed it further into a paradigm of health care. (7)

It appears disingenuous to obfuscate this historical perspective and present only a truncated history. When one asks 'why' one sees a number of American states divided in their scope of chiropractic practice largely on the basis of either seeking practice rights similar to medical practitioners or remaining aligned with Palmer's major premise which includes conservative health care without drugs or surgery. It is also observed a majority of private practitioners of chiropractic and multiple chiropractic institutions retain this holistic healing approach (8); however, some European chiropractic institutions are focusing their curriculum solely on musculoskeletal pain. (9,10)

I note that 2 European chiropractic colleges were recently denied institutional and programmatic accreditation by the European Council on Chiropractic Education (ECCE) and oral reports as personal communications from key informants and report analysis associate this denial with the fact each includes the philosophy of chiropractic in its education programs which adhere to the major premise. It is also telling that the ECCE has been censured to a degree (11) by the European authority that empowers it, the European Association for Quality Assurance in Higher Education (ENQA).

One also notes that of the 6 chiropractic institutions that are signatories to the European communiqué 1 is in South Africa and another in France and neither have more than a minimal record of publication in the discipline field. Two of the remaining 4 appear to have mixed identities as chiropractic educational institutions, as 1 (Denmark) seems to not deliver a chiropractic qualification, rather it is a degree in biomechanics (12), and the other (Switzerland) has relegated chiropractic to a sub-discipline of medicine.(13) The 2 remaining institutions, Anglo-European Chiropractic College (10) and the Welsh Institute of Chiropractic (9) contribute to the literature base of the profession. There would appear to be an argument that these institutions which have disavowed the fundamental premise of the chiropractic profession could in fact be considered as not being representative of typical chiropractic institutions. Should this be true then the significance of their communiqué is in question.

The Straw Man Argument

An error embedded in the communiqué is the suggestion that chiropractors consider vertebral subluxation as the cause of disease. This is a ‘straw man’ argument that suggests a mis-truth has substance when there seems in fact no contemporary evidence that chiropractors hold this view. The published literature is replete with evidence in the form of case reports that relate correction of vertebral subluxation with observable changes in the health status of humans (14-16) and other vertebrates (17) but it is very difficult if not impossible to find any statement of claim that subluxation is causal. In terms of Sackett's paper (1) that formalised the concept of evidence-based medicine equal weight was put on the literature, practitioner experience and patient input. A case report is a concise triangulation of these 3 elements.

Not All Evidence Has Integrity

Before undertaking an exploration of Sackett et al’s arguments for what is termed ‘evidence-based medicine’ (1) and what chiropractors may consider as evidence-based practice (EBP) it is worth looking at some of the supposed evidence presented in the guise of chiropractic research. One recent paper in particular (18) provides a classic example of why critical reading is an essential skill to be taught to today's chiropractic students notwithstanding that critical writing is a skill seemingly lacking among some pools of academic chiropractors. That paper deserves analysis. It was published in *Chiropractic and Manual Therapies*, which serves Australia and Europe (19) and does not seem to be short on submissions; thus, it is legitimate to ask why a paper would be published in 2016 using data deemed a decade old.

The Graston® modality as described by the trial authors is a massage system using several hand-held stainless steel instruments. The technique is erroneously represented by the authors as typical chiropractic technique for the thoracic spine but is in fact only a

modality used by a small number of manual practitioners. It cannot be considered representative of chiropractic. The paper uses the Oswestry scale which is specifically for low back pain, yet it is employed in the study to record thoracic pain. These are physiologically and anatomically different regions of the spine. The researchers state they altered a word or 2 so 'low back' became 'thoracic.' One of the named researchers is Editor-in-Chief of the journal in which the paper was published yet the authors declare they have no competing interests. There is no statement of funding and the intervention was delivered by students and not trained practitioners of the modality. The conclusion from an attempted assessment of a modality of manual therapy is given with the inference chiropractic as a discipline has no effect with treatment of the thoracic spine. Does this paper present valid evidence for its conclusion there is little to no difference between traditional adjustive approaches to the thoracic spine and the use of the Graston® modality?

In many areas of journal publication there seems to be a never-ending flow of papers that are withdrawn from publication after they have been critically examined and fraudulence either proven or suspected. (20,21) This raises the interesting question as to at what time a published paper may be considered evidence with such reliability and solidity to impact practice methods. Perhaps this uncertainty is why EBM has such a poor uptake in medical practice. (22)

If medicine in general expresses reservations regarding an unquestioning uptake of EBP perhaps it is somewhat unwise for academic chiropractors to wantonly embrace what seems to be a flawed paradigm and in so doing alter the premise under which chiropractic's social conscience is expressed in community care. It is not just chiropractors who should exhibit caution. A striking review by Tonelli found 'Despite its promise, EBM currently fails to provide an adequate account of optimal medical practice. A broader understanding of medical knowledge and reasoning is necessary.' (23) Others have argued that EBM is in crisis (24) as while 'originally described as a revolution in medicine … Its renaissance will require changes in research and practice that are no less radical.' (25) Experts propose 'Orthodox medicine should consider abandoning demands that CAM become evidence-based, at least as ''evidence'' is currently narrowly defined, but insist instead upon a more complete and coherent description and defence of the alternative epistemic methods and tools of these disciplines' (26) and that EBM's 'pyramid of possibilities' should be revisited especially by third-party payers. (27) The question has to be asked as to whether EBP has a significant role in contemporary chiropractic education. Sackett (28) argues strongly for its importance in academic medicine.

Practice Paradigms

For many years aspects of chiropractic practice in the style of the major premise have been strongly supported by evidence. I am an academic and not a Gonstead practitioner yet it is obvious that any teaching of chiropractic technique must go beyond the basic diversified moves and into a realm where considered opinion is given to found clinical evidence. The Gonstead paradigm of practice appears to do this at a reasonably sophisticated level. One may argue about small technicalities but the fact remains that clinical evidence is gathered and weighted and then used to direct a specific spinal intervention in the form of a targeted chiropractic adjustment.

Other aspects of chiropractic technique such as Activator Methods™ and Chiropractic Biophysics™ follow a similar path of detailed collection of evidence to form a working diagnosis and the direct resultant of therapeutic intervention. It speaks poorly of any

academic who fails to appreciate most chiropractors rely on some form of evidence on a daily basis. Many chiropractors also use a clinical diagnostic approach known as Applied Kinesiology (AK) to identify the optimal therapeutic target within the spine and other body parts. There is no doubt AK is supported by extensive research-based evidence and it is noted it is an approach also used by other health disciplines which practice in an evidence based manner. (29,30)

The Therapeutic Target

Many chiropractors refer to the target for intervention as subluxation (31) as do the majority of chiropractic students. (32) It is unethical for a healthcare provider to impart a therapy in the absence of a working diagnosis. In turn, this begs the question as to the diagnostic language utilised by those who deny the use of the term subluxation. Rome has published almost 300 synonyms drawn from the medical, chiropractic and healthcare literature that are used in some way or another to label in the spine the therapeutic target by a variety of manual-care providers. (33) A personal communication from Rome suggests an updated list is in the process of being readied for publication and essentially doubles the number of synonyms. A semiotic review of this plethora of terms demonstrates subtle differences in meaning such as to render interchangeability difficult. For example 'posterior joint dysfunction' describes a very specific mechanical disorder within defined structures of the spinal motion unit. It does not equate to subluxation. A 'somatic lesion' similarly refers to a specific lesion within a body part but fails to account how a chiropractic adjustment impacts sensorimotor integration, for example. (34)

Therefore to what do those who deny subluxation direct their spinal therapy? Which elements are selected to determine whether care delivered into socially-sensitive communities is complete chiropractic care? If the student's learning journey is not lead into the proper use of the term 'subluxation' are they being compromised in the level of chiropractic care they are able to offer? Similarly, if educators fail to use the term 'adjustment' with or without the descriptor 'chiropractic' is the delivery of such care compromised? This type of prejudice would seem to be in ignorance of the chiropractic dialect preferred by a large proportion (93.6%) of surveyed chiropractors. (35) It also demonstrates ignorance of the technical aspects of the adjustment compared to mobilization, which are very different elements within the manipulation spectrum with different clinical effects. On the other hand there are academic chiropractors who are actively researching and reporting on the force and time dimensions of the adjustment. (36) To refer to the chiropractic adjustment as manipulation is not only technically incorrect, it is misleading. To exclude the terms adjustment and subluxation is also to exclude neurological and brain research by authors in various fields, most notably Haavik. Collectively, a denial of these elements of chiropractic's major premise compromise the level of care provided. Were chiropractic to fully step-up to deliver on its social conscience of care for the less fortunate then it is reasonable to argue the original concepts and major premise should remain the driving force.

The Subluxation Paradigm

A contemporary understanding of subluxation, a term within chiropractic's major premise, will show it is not appropriate to consider it as merely 'an historical artefact.' Not only are there well-referenced texts on the topic written by noted authors (37-39) but also multiple papers (40,41) including my own. (42) Those who have studied the chiropractic subluxation appreciate it is not a 'thing' nor is it correct to suggest it is simply a vitalistic

construct. If subluxation were a construct, it could be shown to exist through the application of the *Theory of Abstract Objects*, a methodology used by Massimi to demonstrate the presence of unobservable phenomena. (43) The minority-college communiqué fails to acknowledge this. It may be useful to consider subluxation as a conceptual framework to organise and rank found clinical evidence and to allow the development and ranking of outcomes measures by clinical finding. It is incongruous to proffer argument in favour of evidence-based practice and at the same time discard the most valuable tool for gathering evidence to guide optimal therapeutic intervention.

When subluxation is used as a conceptual framework it is able to be deconstructed to 6 clinical subsets. Five of these were originally discussed by Lantz (44) and refined a decade ago by others. These 5 subsets allow the documentation of clinical evidence of spinal intersegmental kinematic change, muscle change, neurological change, connective tissue change and vascular change. Manual detection of painful upper cervical joint dysfunction is known to be excellent to complete. (45) Muscle change may be classified as functional or structural change in both intrinsic, directly linked with the spinal motion unit, and extrinsic muscles which are remote to the spinal motion unit and may reflect neural change. Neural change itself may be categorised as Newtonian, such as pain and/or dysesthesia, or Quantum, as in cognitive, affective or evaluative change. Connective tissue change most commonly references the intervertebral disc but also includes all ligaments, both intrinsic such as the anterior or posterior longitudinal ligaments of the spine and extrinsic ligaments and tendons. It expands to include fascia and fascial planes and trains. Vascular change includes systemic findings such as hypertension or cerebrospinal fluid dynamics and localised suspicions such as intra-spinal venous stasis. The 6th subset is emerging and perhaps requires the most scholarly enquiry. It relates to visceral change, and is yet to become a widely recognised element of contemporary chiropractic practice but could include infantile colic, for example.

At no stage do I suggest subluxation has a proven causal relationship with these clinical changes; however, when clinical evidence is found, gathered and recorded in the subsets described above it becomes inconceivable to deny the vertebral subluxation complex, or simply the subluxation. From known findings a clinical impression may be formed and a most-likely working diagnosis developed to guide specific therapeutic intervention, commonly in the form of the chiropractic adjustment, either manual or mechanically assisted. It is at this point that the adjustment is inexorably linked with subluxation. Further the gathered clinical evidence auto-generates outcomes measurements that demonstrate overt clinical change pre- and post-intervention.

To not teach subluxation in a contemporary context is to deny tomorrow's chiropractors one of if not the most valuable tool to assist evidence-based clinical decision making. Again it must be asked to what do subluxation deniers direct their therapeutic intervention? Or are we seeing poor-quality clinicians deliberately ‘dumb down’ concepts they fail to understand and thus refuse to use? In turn is this a fair representation of academic chiropractic and is it a responsible approach within chiropractic education? The simple fact is that when any academic is assigned topics to teach it is meant to reflect their high degree of expertise in a specific field and not to provide a platform for the expression of ignorance and misguided bias.

Managing Any Damage

Whether or not it was appropriate to use the cloak of a scientific meeting of integrity conducted by the World Federation of Chiropractic (WFC) (4) to release the minority-

college communiqué is a question for others. Is it possible for a few academic chiropractors to have wrought damage to the profession globally by demeaning the major premise of the profession, a premise that each naysayer bought into when they selected chiropractic as a career? If damage has indeed been wrought it may be seen as having multiple layers. The first is the selling out of students by short-changing them through the removal of a way of critical clinical thinking that allows the construction and ranking of evidence and its associated outcomes measurements. The second layer is personal withdrawal from a professional identity that distinguishes chiropractic from physical therapy, massage therapy and even osteopathy. It is tempting to propose that rather than slash and burn a concept in which they decline to invest the time and energy to properly understand it would be a lot simpler for chiropractic critics of chiropractic to change their discipline. A third layer of damage lies in providing a schism for exploitation by those with a vested interest in attacking the chiropractic profession. (46) The fourth layer and perhaps the greatest indictment is that there is a regrettable lack among some academics of an understanding of the nuances of evidence-based practice. One would reasonably demand a higher level of collective wisdom from those entrusted with the professional training of young minds. It is inappropriate for a minority of academic chiropractors to deliberately create a null curriculum (47) where elements are knowingly and wilfully removed.

However, as signaled in the title of this commentary, perhaps the real benefits are achieved by not diluting the powerful effects of chiropractic practice when practiced in accord with its major premise, especially by educational institutions which fulfil societal obligations to exhibit a social conscience by providing the best quality of care to those who may not be able to afford it nor have ready access to it.

CONCLUSION

One can only hope that any future communiqués are themselves evidence-based. The behaviour of some is certainly a blight on the social conscience of chiropractic by damaging the major premise of the profession and severely reducing the integrity of the learning journey for students and the quality of care provided to those with genuine need. One can only hope such attitudes do not gain traction in current and future practitioners.

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