

Review of: "Changing chiropractic's subluxation rhetoric: Moving on from 'deniers', 'vitalists', and 'unorthodox', to realists, post-realists, and absurdists"

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Potential competing interests: No potential competing interests to declare.

I have been requested by the website Qeios to provide a review of this paper and trust I have not repeated too many comments from previous reviewers and that my comments are still applicable to the new V2 article version.

The author of this commentary is inviting different chiropractic groups and viewpoints to participate in a "clear and strong debate" and "active intellectual discussion" around the topic of the chiropractic subluxation. While not made clear, one might assume the objective of holding such a debate or discussion would be to advance understanding on the importance/relevance of the chiropractic subluxation within the chiropractic profession.

My first comment is that any such an invitation will not be assisted by the inflammatory tone in this commentary if the author genuinely seeks to bring together key chiropractic groups who may be invested in participating in such discussions. Examples that remain in the current version include the use of terms such as "obscene use of power to extract compliance" "gaslighting" and "another piece of nonsense." I suggest that the use of personal judgements and ridicule is divisive and counterproductive to the authors invitation and is not appropriate scholarly discourse.

I also have several concerns about the proposed framework put forward by the author as the terms of reference for these proposed Intellectual discussions. i.e., the authors self-styled philosophical groupings. For chiropractic to become a more trusted, more respected, mainstream, allied-health profession it must focus on bettering our delivery of best-practice (evidence-based) healthcare for those impacted by recognised public health problems. I fear the author's proposed philosophy-based debate/discussion would be a distraction from this principal responsibility and cannot see that the case has been made for why a philosophy-based debate about an unproven concept (subluxation) [1] adds value to the quality of the healthcare provided by chiropractors.

To elaborate, low quality (non evidence-based) healthcare has been highlighted by the World Health Organisation (WHO) as an important health provider issue [2]. Factors identified as contributing to low quality healthcare includes the harm caused by inaccurate diagnosis, treatment that is either in error, inappropriate or unnecessary. Other writers have also highlighted how incorrect diagnosis can create unwarranted concern for the patient [3, 4].

Accordingly, I can find little high quality clinical research evidence for how a chiropractic subluxation can be reliably identified/diagnosed; whether a subluxation has been removed/corrected or how subluxations cause harm to human health i.e., contribute to specific diseases or disease processes due to their aberrant impact on neurological spinal

mechanisms. Similarly, I can find little high quality clinical research evidence to demonstrate the correction of subluxations, and any associated aberrant neurological spinal mechanisms, leads to measurably improved health outcomes that will positively impact the burden of disease in society.

I note the author has further suggested that the chiropractic research community, i.e. post-realists “are yet to report any examination of their null hypothesis ‘*subluxation does not exist*’. While the author provides no clear description of the research design/question he believes will adequately demonstrate the impact of subluxations on health and well-being, I would highlight that subluxation-based research has been occurring for decades by a range of interested chiropractic researchers [5-8]. To date however, the results of that preliminary (primarily lab-based) research has rarely led to high-quality, large population clinical trial designs where outcomes could potentially impact healthcare delivery. Why? One might assume that while the results of this preliminary research can be intellectually interesting, they have yet to provide outcomes that would provide a compelling foundation for high-cost, large population clinical trials (biologically plausibility). In contrast, during those same decades, we have seen high-quality clinical research evidence to demonstrate that chiropractic manipulation/adjustments can help reduce the burden of low back pain, neck pain and some headache types, conditions that have a high cost burden on society, as identified by the Global Burden of Disease [9].

With the above evidence-based concerns in mind it might seem understandable that some chiropractic educators have written of their concerns towards the acceptance of subluxation minded students and the delivery of subluxation-based student training. While the author has identified such views as an “elitist attempt to exclude students who hold different beliefs”, chiropractic schools have a responsibility to deliver graduate students with a focus toward evidence-based practice. Similar to the GCC, evidence-based principles have also been enshrined in Code of Conduct guidelines by other chiropractic registration boards [10]. I further note from the findings taken from the most recent chiropractic population surveys that most chiropractors do primarily identify with practicing under a musculoskeletal/spine-care type paradigm, as opposed to a subluxation-based paradigm [11-13]. Such survey findings might put further question to the terminology used by the author for what he describes as “realist” and “conventional” chiropractors.

Finally, I too often found the authors referencing or lack of referencing, failing to validate many of the arguments made. Just one example is referencing to the home page of the WFC when arguing that the chiropractic research community is “guided by identities, interests, and values, and by social and cultural practices such as those of the *World Federation of Chiropractic* (WFC).” Another example is clearer examples or evidence to support assertions that the international research community aim to “centralise their perceived power”. I would advise the author to apply appropriate referencing as proof of the many accusations made throughout, particularly towards chiropractic scientific community and organisational leadership.

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