RE: Gleberzon BJ, Arts J, Mei A, McManus EL. The use of spinal manipulative therapy for pediatric health conditions: a systematic review of the literature. J Can Chiropr Assoc. 2012;56(2):128-41.

To the Editor:

We read with great interest the review article by Gleberzon et al.[1] on the use of spinal manipulative therapy (SMT) for pediatric health conditions. We also wish to add to the relevant literature characterizing the chiropractic care of children the manuscripts by Lee et al.[2] and Alcantara et al.[3-4] and relevant articles as defined by their methodology. We offer the following articles on the chiropractic care of children with growing pains[5], attention deficit hyperactivity disorder[6], nocturnal enuresis[7], developmental delay syndrome[8] and pediatric low back pain[9]. Given the lack of completeness, their literature review must be examined with caution.

Recently, Alcantara and colleagues[10] published a review of the literature on asthma. The salient features of their review revealed the pitfalls and challenges in designing a randomized controlled clinical trial (RCT) to examine the effectiveness of chiropractic SMT versus sham SMT. First, the validity of the sham SMT employed in the 3 clinical trials on asthma[11-13] are questionable since the respective investigators failed to validate their sham SMTs. Therefore, the interpretations of these studies and their conclusions are questionable. Consider the "simulated treatment" employed by Balon et al.[12] where the supposed differentiating factor for active versus sham SMT is the presence of cavitation. This assumption on the part of Balon et al.[12] is a fatal error in research design and places into question the conclusions their study may have offered. Secondly, the sham SMTs employed in the 3 clinical trials have semblance to SMTs employed in clinical practice by both chiropractors and osteopaths further placing into question the soundness of their study design.[14] Similar to previous authors utilizing a checklist to examine the methodological quality of these asthma trials[10,14], Gleberzon et al.[1] failed to critically examine the particulars of their studies of interest and scored them without qualifying their questionable internal validity.

Recently, Alcantara and colleagues[15] published their review of the literature on the chiropractic care of children with infantile colic. Our issue with the Gleberzon review is their stated findings as comparable to the conclusions provided in the UK Evidence Report authored by Bronfort et al.[16] that chiropractic SMT is not effective for infantile colic and asthma when compared to sham manipulation. To the best of our knowledge, no published clinical trial has compared active SMT versus sham SMT for infantile colic.[15] Its been argued that the study by Olafsdottir et al.[17] compared chiropractic SMT versus placebo.[18] The Olafsdottir study compared SMT versus no treatment and therefore examined the effects of care to the natural history, the possibility of "spontaneous recovery", the effects of time, the effects of repeated testing, and regression to the mean.[19]

Inherent in our role as clinicians, educators and patient advocates is the ability to critically appraise the literature to evaluate the strengths and limitations of our practice activities. In this era of evidence-informed practice and global competition for effective consumer healthcare services, we as a profession cannot afford to merely parrot the findings of other authors.

Joel Alcantara, DC*, Joey Alcantara, DC**, Junjoe Alcantara, DC+
*Chair of Pediatric Research Life Chiropractic College West, Hayward, CA and Research Director, the International Chiropractic Pediatric Association, Media, PA, USA
**Private Practice of Chiropractic, Calgary, AB, Canada
+Private Practice of Chiropractic, Manila, Philippines

References

1. Gleberzon BJ, Arts J, Mei A, McManus EL. The use of spinal manipulative therapy for pediatric health conditions: a systematic review of the literature. J Can Chiropr Assoc. 2012;56(2):128-41.
2. Lee AC, Li DH, Kemper KJ. Chiropractic care for children. Arch Pediatr Adolesc Med. 2000;154(4):401-7.
3. Alcantara J, Ohm J, Kunz D. The chiropractic care of children. J Altern Complement Med. 2010;16(6):621-6.
4. Alcantara J, Ohm J, Kunz D. The safety and effectiveness of pediatric chiropractic: a survey of chiropractors and parents in a practice-based research network. Explore (NY). 2009;5(5):290-5.
5. Alcantara J, Davis J. The chiropractic care of children with "growing pains": a case series and systematic review of the literature. Complement Ther Clin Pract. 2011;17(1):28-32.

6. Alcantara J, Davis J. The chiropractic care of children with attention-deficit/hyperactivity disorder: a retrospective case series. Explore (NY). 2010;6(3):173-82.
7. van Poecke AJ, Cunliffe C. Chiropractic treatment for primary nocturnal enuresis: a case series of 33 consecutive patients. J Manipulative Physiol Ther. 2009;32(8):675-81.
8. Cuthbert SC, Barras M. Developmental delay syndromes: psychometric testing before and after chiropractic treatment of 157 children. J Manipulative Physiol Ther. 2009;32(8):660-9.
9. Hayden JA, Mior SA, Verhoef MJ. Evaluation of chiropractic management of pediatric patients with low back pain: a prospective cohort study. J Manipulative Physiol Ther. 2003;26(1):1-8.
10. Alcantara J, Alcantara JD, Alcantara J. The chiropractic care of patients with asthma: a systematic review of the literature to inform clinical practice. Clin Chiropr. 2012; 15(1):30.
11. Bronfort G, Evans RL, Kubic P, Filkin P. Chronic pediatric asthma and chiropractic spinal manipulation: a prospective clinical series and randomized clinical pilot study. J Manipulative Physiol Ther. 2001;24(6):369-77.
12. Balon J, Aker PD, Crowther ER, Danielson C, Cox PG, O'Shaughnessy D, Walker C, Goldsmith CH, Duku E, Sears MR. A comparison of active and simulated chiropractic manipulation as adjunctive treatment for childhood asthma. N Engl J Med. 1998;339(15):1013-20.
13. Nielsen NH, Bronfort G, Bendix T, Madsen F, Weeke B. Chronic asthma and chiropractic spinal manipulation: a randomized clinical trial. Clin Exp Allergy. 1995;25(1):80-8.
14. Alcantara J, Alcantara JD, Alcantara J. Chiropractic treatment for asthma? You bet! J Asthma. 2010;47(5):597-8.
15. Alcantara J, Alcantara JD, Alcantara J. The chiropractic care of infants with colic: a systematic review of the literature. Explore (NY). 2011;7(3):168-74.
16. Bronfort G, Haas M, Evans R, Leininger B, Triano J. Effectiveness of manual therapies: the UK evidence report. Chiropr Osteopat. 2010;18:3.
17. Olafsdottir E, Forshei S, Fluge G, Markestad T. Randomised controlled trial of infantile colic treated with chiropractic spinal manipulation. Arch Dis Child. 2001;84(2):138-41.
18. French SD, Walker BF, Perle SM. Chiropractic care for children: too much, too little or not enough? Chiropr Osteopat. 2010;18:17.
19. Hart T. Treatment definition in experience-based rehabilitation research. Methodology paper for Neuro-Cognitive Rehabilitation Research Network, www.ncrrn.org. Retrieved Sept 20, 2011.

To the Editor in reply:

Thank you for the opportunity to respond to the Letter to the Editor by Alcantara et al.[1] with respect to our study[2]. Upon reading it closely, it seems their letter raised two issues of concern. These are: (i) that we did not capture a number of articles in our review and (ii) an on-going criticism of the study by Balon et al[3].

With respect to their first concern, we have reviewed the articles that Alcantara et al.[1] believe we ought to have included in our review. We disagree with their assertion. In fact, it seems to us that Alcantara et al.[1] did not fully consider the inclusion criteria of our study; had they done so, they would have realized why the articles they cite were not eligible for inclusion.

The articles by Lee et al.[4] and the two articles by Alcantara, Ohm and Kunz[5,6] were cross-sectional descriptive surveys, and thus not eligible for assessment using the modified instrument by Sackett we used to assess a clinical trial's methodological quality. We also maintain these articles would not have substantially added any information of relevance to our discussion section. The article by Alcantara and Davis[7] stated test subjects with attention-deficit/hyperactivity disorder were treated with both spinal manipulative therapy and nutritional supplementation; since the children were treated with two different modalities, it would have been impossible for us to determine which therapy resulted in the improvements reported by the authors, thus rendering it impossible for us to have assessed this study using our assessment instrument. As a personal observation, we find it puzzling that these studies were not published in the journals that focus on the chiropractic sciences, such as the Journal of Canadian Chiropractic Association, Journal of Manipulative and Physiological Therapeutics, Journal of Chiropractic Medicine, Clinical Chiropractic or Chiropractic and Manual Therapy.

The article by Hayden et al.[8] was an overview that discussed a number of issues germane to the management of children, much of which was not relevant to our review. The case series and systematic review by Alcantara and Davis on 'growing pain'[9], and the systematic review on the chiropractic care of asthma by Alcantara et al.[10] were published in 2012 and thus were not available to us when we conducted our search in 2011.

We reviewed the article by van Poecke et al.[11] inves-

tigating the management of children with primary nocturnal enuresis. Upon review of the methods section, we read children in that study were treated using a chiropractic technique called "NeuroImpulse Protocol", which the authors describe as a combination of toggle recoil and Logan Basic techniques. This made this study ineligible for review in our study since we limited our assessment to studies that only treated children using spinal manipulative therapy (SMT) [described as high-velocity, low amplitude (HVLA) thrusting procedures]. Likewise, the study by Cuthbert and Barras[12] treated children with Applied Kinesiology (AK). Of particular importance is the authors' statement that: "Because AK diagnostic and treatment may consist of elements from different treatment modalities and are directed toward individual responses, there was a significant variation in the manipulative treatment received by each of the children in this study" [12p662]. In other words, based on the use of AK diagnostic methods including Manual Muscle Testing and Therapy Localization, there was no way to know if each child received HVLA-SMT. In fact, nowhere in the 'Interventions and Outcomes' section do the authors mention the application of HVLA-SMT at all.

The balance of the letter to the editor by Alcantara et al.[1] claims we did not critically examine the methodology used by Balon et al.[3] in their study published in the New England Journal of Medicine (NEJM). We have heard some members of the chiropractic community raise these concerns since the time the Balon et al.[3] study was first published in 1998. It seems to us that the scientific community has determined that the methodology used by Balon et al.[3] was appropriate, and certainly the study withstood the scrutiny of the peer-review process used by that high impact journal. We are familiar with the criticisms of the Balon et al.[3] study and did not believe they represent a 'fatal error' as purported by Alcantara et al.[1].

Lastly, as Alcantara et al.[1] wrote, our study drew similar conclusions as the UK Evidence Report by Bronfort et al.[13]. Although we did not seek out to 'parrot' the conclusion reached by Bronfort et al.[13] as asserted by Alcantara et al.[1], we were admittedly comforted by the fact that our study aligned itself with the Report, since the Report is widely heralded as the most extensive and appropriately conducted review on the effectiveness of manual therapy to date. It is also important to note that none of the additional references provided by Alcanata et al.[1] were cited in the UK Evidence Report[13], nor were they cited in two similar systematic reviews both conducted by Gotlib and Rupert[14,15].

In summary, we stand by the findings of our study as originally published and assert the articles referenced by Alcantara et al.[1] would not be eligible for inclusion in our study for the reasons described above and that they would have added little in the way of relevant information to our discussion section. More over, although mindful of their criticisms of the study by Balon et al.[3], we reject the suggestion that such criticisms would have in any way altered our score of that study. That said, in the event we (or other authors) undertake a narrative or scoping review of the literature pertaining to the chiropractic management of children we are confident that the studies provided by Alcantara et al.[1] would be included.

Respectfully submitted

Brian J. Gleberzon, DC, MHSc
Jenna Arts, BA (Hons)
Amanda Mei, BSc (Hons)
Emily L. McManus, BScK (Hons), MHA

References

1. Alcantara J, Alcantara J, Alcanatara J. Letter to the Editor. JCCA. 2013;2013;57(1):96-97.
2. Gleberzon BJ, Arts J, Mei A, McManus EL. The use of spinal manipulative therapy for pediatric health conditions: a systematic review of the literature. J Can Chiro Assoc. 2012;56(2):128-141.
3. Balon J, Aker PD, Crowther ER, Danielson C, Cox PG, O'Shaughnessy D, Walker C, Goldsmith CH, Duku E, Sears MR. A comparison of active and simulated chiropractic manipulation as adjunctive treatment for childhood asthma. N Engl J Med. 1998;339(15):1013-20.
4. Lee AC, Li DH, Kemper KJ. Chiropractic care for children. Arch Pediatr Adolesc Med. 2000;154(4):401-7.
5. Alcantara J, Ohm J, Kunz D. The chiropractic care of children. J Altern Complement Med. 2010;16(6):621-6.
6. Alcantara J, Ohm J, Kunz D. The safety and effectiveness of pediatric chiropractic: a survey of chiropractors and parents in a practice-based research network. Explore (NY). 2009;5(5):290-5.
7. Alcantara J, Davis J. The chiropractic care of children with attention-deficit/hyperactivity disorder: a retrospective case series. Explore (NY). 2010;6(3):173-82.
8. Hayden JA, Mior SA, Verhoef MJ. Evaluation of chiropractic management of pediatric patients with low

back pain: a prospective cohort study. J Manipulative Physiol Ther. 2003;26(1):1-8.
9. Alcantara J, Davis J. The chiropractic care of children with "growing pains": a case series and systematic review of the literature. Complement Ther Clin Pract. 2011;17(1):28-32.
10. Alcantara J, Alcantara JD, Alcantara J. The chiropractic care of patients with asthma: a systematic review of the literature to inform clinical practice. Clin Chiropr. 2012; 15(1):23-30.
11. van Poecke AJ, Cunliffe C. Chiropractic treatment for primary nocturnal enuresis: a case series of 33 consecutive patients. J Manipulative Physiol Ther. 2009;32(8):675-81.
12. Cuthbert SC, Barras M. Developmental delay syndromes: psychometric testing before and after chiropractic treatment of 157 children. J Manipulative Physiol Ther. 2009;32(8):660-9.
13. Bronfort G, Haas M, Evans R, Leininger B, Triano J. Effectiveness of manual therapies: the UK evidence report. Chiropr Osteopat. 2010;18:3.
14. Gotlib A, Rupert R. Assessing the evidence for the use of chiropractic manipulation in paediatric health conditions: A systematic review. Paediatr Child Health. 2005;10(3):157-161
15. Gotlib A, Rupert R. Chiropractic manipulation in pediatric health conditions - an updated systematic review. Chiropractic and Osteopathy. 2008;16(11).