ROYAL COLLEGE OF CHIROPRACTORS RESEARCH COMMITTEE BULLETIN

The global summit on the efficacy and effectiveness of spinal manipulative therapy for the prevention and treatment of non-musculoskeletal disorders: a systematic review of the literature

This systematic review investigated the clinical outcomes of SMT, and by implication the notional theory of the mechanism of action of SMT, in non-MSK conditions. The authors made the assumption that this theory was likely to be the same irrespective of the nature of the non-MSK condition and, therefore, that the evidence from clinical studies for different non-MSK conditions could be collated in the final analysis.

STUDY SUMMARY

The study took SMT as including spinal manipulation, mobilisation or traction and addressed two research questions:

1) Compared to sham or placebo interventions, is SMT *efficacious* for the prevention or management of non-MSK conditions?

2) Compared to other interventions (including sham intervention when delivered in a pragmatic plan of management or no intervention), is SMT *effective* in the prevention or management of non-MSK conditions?

Strict eligibility criteria included RCT design, and SMT isolated as a single intervention in the treatment arm and not part of multimodal care. The latter criterion was essential to enable investigation of the notional mechanism of SMT action in managing non-MSK conditions. This meant that only 16 RCTs were included in the systematic review, and because trials were further required to meet high or acceptable standards of methodological quality, which was stringently determined, it was considered that the findings of only 6 RCTs constituted the body of evidence across a range of non-MSK conditions, that included:

- Infantile colic (1 study)
- Childhood asthma (1 study)
- Hypertension (2 studies)
- Primary dysmenorrhoea (1 study)
- Migraine (1 study)

When the findings of these 6 trials were considered, the authors found no evidence of an effect of SMT for the prevention or management of non-MSK disorders. This consistent finding across multiple studies lead to the conclusion that the current best evidence does not support SMT as an intervention for non-MSK conditions and challenged the theory that treating spinal dysfunctions with SMT can influence organs and their function.

COMMENTARY POINTS

This expertly conducted study followed a rigorous and transparent process to address its research questions. There are however some limitations in what can be inferred from its findings:

Evidence for management of individual non-MSK conditions
This study did not have a stated aim to evaluate the efficacy or effectiveness of SMT on any *individual* non-MSK condition, yet did draw conclusions about these. The best available evidence for most of the individual conditions highlighted consisted of only 1 RCT and, based upon such a limited quantity of

evidence, conclusions regarding individual conditions are therefore less certain and more susceptible to being changed should new evidence emerge.

A reductionist approach
The effect of SMT was evaluated in isolation from the more usual clinical approach that utilises a package of care and so may not reflect the way patients are actually managed in a clinical setting. Additional interventions that may be included and contextual effects can have significant effects on patient outcomes.

Absence of evidence is not evidence of no effect
The authors' conclusion that there is no evidence of an effect of SMT in the management of non-MSK conditions may well be valid, but another, more cautious interpretation would be that, currently, there is an absence of acceptable quality evidence.

Future research
The authors recognised the limitations of their study and call for further research. To be included in an updated systematic review such as this would require new, high quality RCTs investigating SMT as an isolated intervention. However, the limitation of such studies is that they may bear little resemblance to the management of conditions in the real world of clinical practice, where a package of care approach is utilised. While high methodological quality is paramount, research that is clinically relevant, inclusive and can be applied to clinical practice is also needed to usefully inform evidence-based care.