

Replication of the study 'Adverse effects of spinal manipulation: a systematic review'

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Chiropractic & Manual Therapies 2012, **20**:30 doi:10.1186/2045-709X-20-30

Published: 21 September 2012

Abstract (provisional)

Objective

To assess the significance of adverse events after spinal manipulation therapy (SMT) by replicating and critically reviewing a paper commonly cited when reviewing adverse events of SMT as reported by Ernst (J Roy Soc Med 100:330-338, 2007).

Method

Replication of a 2007 Ernst paper to compare the details recorded in this paper to the original source material. Specific items that were assessed included the time lapse between treatment and the adverse event, and the recording of other significant risk factors such as diabetes, hyperhomocysteinemia, use of oral contraceptive pill, any history of hypertension, atherosclerosis and migraine.

Results

The review of the 32 papers discussed by Ernst found numerous errors or inconsistencies from the original case reports and case series. These errors included alteration of the age or sex of the patient, and omission or misrepresentation of the long term response of the patient to the adverse event. Other errors included incorrectly assigning spinal manipulation therapy (SMT) as chiropractic treatment when it had been reported in the original paper as delivered by a non-chiropractic provider (e.g. Physician). The original case reports often omitted to record the time lapse between treatment and the adverse event, and other significant clinical or risk factors. The country of origin of the original paper was also overlooked, which is significant as chiropractic is not legislated in many countries. In 21 of the cases reported by Ernst to be chiropractic treatment, 11 were from countries where chiropractic is not legislated.

Conclusion

The number of errors or omissions in the 2007 Ernst paper, reduce the validity of the study and the reported conclusions. The omissions of potential risk factors and the timeline between the adverse event and SMT could be significant confounding factors. Greater care is also needed to distinguish between chiropractors and other health practitioners when reviewing the application of SMT and related adverse effects.