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Jamison JR. Applying 'science' in chiropractic clinical practice. *JCCA* 1990; 34(4):212-216.

To the Editor:

Congratulations to Dr. Jamison for her evaluation of students' knowledge of methods of judging the value of clinical intervention strategies (Applying "science" in chiropractic clinical practice. *Journal of the Canadian Chiropractic Association* 1990 [Dec]; 34[4]:212-216). Hers is one of the first published efforts to document the epistemological knowledge and orientation of chiropractic practitioners (in this case, future chiropractors). Similar assessments among doctors in chiropractic academia and the field might be helpful in determining strategies for attitudinal change toward science in chiropractic, and for monitoring progress in the philosophical metamorphosis currently underway.

Conspicuously absent from Dr. Jamison's project, however, is consideration of the value of time-series clinical research methods (e.g., 1, 2) and their role in chiropractic and other clinical disciplines. These designs include descriptive (i.e., relatively uncontrolled) studies (e.g., 3, 4) and experimental strategies (e.g., 1, 2, 5), may vary in patient sample size from one to infinity, and have been suggested for clinical investigations in chiropractic (4, 6, 7), nutrition (8, 9), osteopathy (10, 11), medicine (12, 13), psychology and psychiatry (1, 2, 5, 13-15), and physical therapy (16, 17).

Time-series are especially useful in applied research because they parallel the way that patients and doctors interact: one patient at a time for repeated contacts. Some of these strategies (e.g., multiple baseline designs, reversal and withdrawal designs) belie the notion that case reports and clinical series cannot be experimental or cannot justify cause-effect inferences. Individual published investigations which employ time-series designs are typically weak in generalizability (external validity), owing to limited sample sizes and non-random subject recruitment and selection. However, confidence in the generality of time-series experimental findings can be increased through replication by other investigators in other patients and settings.

Time-series research methods provide means of quantifying clinical observations and of controlling for a variety of threats to the internal validity of intervention hypotheses (1, 2, 11) while preserving the rich detail of the individual case. These methods are cost-effective, and may require little more of the clinician than a commitment to repeated, low-error measurement and repeated evaluations of outcome as each case progresses. Increased training in and use of time-series research methods is recommended as a practical means of raising consciousness about the standards of evidence in clinical science and of beginning to plug the research gap in chiropractic.

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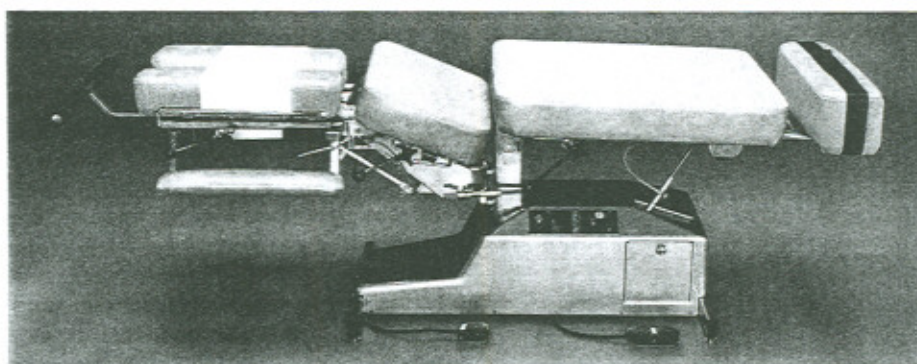
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To the editor in reply:

Dr Keating's comments regarding time-series studies would indeed have contributed to the usefulness of the above study. The conscientious use of such research methods in chiropractic clinics is strongly supported.

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