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The Next Big Research Thing

By Robert Mootz, DC

We have a lot to be pleased about with chiropractic research these days - mainly that we're conducting it. But more specifically, the quality of the research dialogue is getting to the meat of many key issues that confront us.

Over the past few months, I have enjoyed the discussion on these pages about published articles, research needs, challenges, etc. In particular, I have been invigorated by the academic crossfire between Drs. Robert Cooperstein, et al., and Arlan Fuhr, prompted by Dr. Meridel Gatterman and her team's undertaking of rating chiropractic technique procedures for common low back conditions.¹⁻³

You see, I find myself in complete agreement with Dr. Fuhr that much of what we are going through in interpreting evidence is growing pains. And I'm in resounding agreement with Dr. Cooperstein that we must not use growing pains as an excuse to sidetrack us from the real holes in our evidence.

First of all, a comment on the maturity of the debate: The discussion has centered on strengths and weaknesses of chiropractic research. Specifically, the Gatterman project led to a report and conclusions that were interpreted by Dr. Fuhr to emphasize some limitations of the project, and a counter-interpretation by project participants that took Dr. Fuhr's interpretation and the limitations of Dr. Fuhr's own clinical research to task.

I have had the honor of working with both these gentlemen and feel safe in saying that between the time I write this and when it comes out in print, the following observation will still hold true: The legitimate differences in opinion and perspectives between the two focused on extremely relevant scientific and research issues and didn't even begin to impugn motives, character, or each other's commitment to chiropractic.

Hooray! This discussion is role-modeling one of the most important principles of the scientific process: It's the research issues, not the persons! Both sides have legitimate points to make and all involved are contributing to our development as a profession. The fact that clinicians and technique leaders like Drs. Fuhr and Cooperstein are even interested in research is fabulous; that they are focusing attention and clarification on where we have limitations (e.g., clinical outcomes trials between techniques), and how far we can go in conveying or implying worthiness in the absence of evidence is urgently critical in our current professional evolution. How I wish I had such technique role models when I was in school!

We also see other technique proponents, such as the Coxes (of flexion-distraction fame) and the Harrisons (chiropractic biophysics investigators), devoting attention to scientific documentation. Other chiropractors, many on staff at major universities, are also making dramatic contributions to our knowledge base. This progress, coupled with the fact that we have more of our colleges engaged in substantive scientific investigation than ever before, and efforts like those from the Palmer-led Research Agenda Conferences toward skill development in everything from grant writing to bio-statistics (not to mention substantive intellectual debate on our theory development), and we almost have ourselves a full-fledged clinical science - almost. We still have a ways to go.

Progress only persists if we never let ourselves rest on current or past accomplishments. Where does chiropractic research need to go? Here's some of what I think we need to focus on (along with a little refresher on different kinds of research). My disclaimer here is that there is overlap among my choice of categories, and certainly different views on what they should be, as well as what might be included under them.

Basic Sciences Research: This is essentially physiological, anatomical, and mechanics-focused research. Theory development is the big-ticket item here. We need a better understanding of how neurological structures are affected by spinal manipulation and adjusting, what mechanical forces optimize physiologic responses, and what sorts of physiological markers can help us better target our interventions. Although this is incredibly important to inform us how we need to improve patient care and provide needed biological rationale for development of our models, it will never get at the important scientific issues addressed in the next category.

Clinical Sciences Research: The star of clinical research is the outcomes study, things like efficacy and effectiveness trials (using top-notch designs such as randomization and stratification). A great deal of

attention has been placed on this type of research, and many decent trials appear in the literature exploring high-velocity manipulation and mobilization. What remains to be done is work on different forms of manipulation, especially treatment comparison trials. Chiropractic biophysics and Activator research, for example, have documented that their procedures can produce measurable physiological effects, but it remains to be seen how clinically effective they are, and perhaps of greater interest, how they compare to alternatives. Does restoring an ideal structure really mean the patient has a better life, fewer recurrences, and better health, or does it just make x-rays pretty? Does using an adjusting instrument get people well as fast as high-velocity adjusting, or allow patients who can tolerate the latter get some benefit they would not otherwise achieve? Determining optimum frequency, duration, combinations of interventions, and the like, will be critical for our profession to remain competitive and to teach ourselves and our students best-practices. But fitting it all into practice and translating information into the real world is the domain of the next category.

Health Services Research: This includes broad areas of investigation that focus on how chiropractic interfaces with and impacts society as a whole. It also encompasses professional development areas such as quality improvement, changing practice behavior, and appraising our technology. Cost analyses; utilization; the role of chiropractic in health care delivery settings; what occurs in chiropractic health encounters; and the development and implementation of best practices and guidelines all fall within the scope of health services research. Actively engaging in this field of research will offer us particular guidance of where we fit into the community, and what key issues we need to address to maintain and enhance our contributions. It also helps us prioritize where we should focus our basic and clinical research efforts. Ignore this area of research or the lessons it teaches, and we will find ourselves becoming dinosaurs, rapidly passed over by consumers and purchasers of health care for competitors who do not ignore this.

If basic and clinical research can be considered the "R-and-D" of the chiropractic enterprise, health services research is the "market research" that lets us figure out what our constituency needs and how well we are meeting those needs. We might also make educational research a category, and could perhaps separate technology assessment and development into its own grouping.

I am gratified to see discussion and debate, including productive disagreement, in the pages of our academic and scientific journals, but am absolutely invigorated to see it among our technique leaders in the pages of the popular chiropractic press. Professional maturity that allows us to challenge each other and stretch our boundaries and worldview is the fuel that will take chiropractic into the future. Thank you, Dr. Cooperstein,

et al., and Dr. Fuhr for your contributions; professionalism and maturity, forthrightness; and your role-modeling of lively academic discussion that will make our profession and our interventions better for the wear.

References

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Robert Mootz, DC

Olympia, Washington

thinkzinc@msn.com

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