LSHSS

Clinical Forum

Some Pragmatic Tips for Dealing With Clinical Uncertainty

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Kamhi (2011) raised a number of important issues in his exploration of the role that a balance between certainty and uncertainty can play in improving clinical practice. In responding, I will not so much elaborate on his observations but provide some potential pragmatic solutions (in the form of tips to the reader) that can enable practicing clinicians to either obtain or keep the open mind-set required of informed and timely decision making.

ABSTRACT: **Purpose:** This article proposes some recommendations to enable clinicians to balance certainty and uncertainty when evaluating the currency and effectiveness of their treatment approaches.
Method: I offer the following advice: (a) Question the authority of the information previously learned in one's career; (b) be cognizant of what we do not yet know about best clinical practice; (c) understand that knowledge of "best practices" is both temporary and relative; (d) enable access to new information by the use of electronic alerts; (e) be flexible in reading new clinical reports, keeping an open mind as to their value; (f) get the clinically relevant details of new approaches by reading the full reports; and (g) employ, and then evaluate the outcomes of, new approaches used in treating individuals on our caseload.
Results: Examples are provided to show that proactive participation in research-alert programs can enable clinicians to access emerging, clinically relevant information, some of which is controversial. Staying abreast of such information is more efficient than performing guided searches for information as challenging cases arise.
Conclusions: Applications of these recommendations should enable practicing clinicians to entertain new, clinically useful concepts while not taxing the limited time that clinicians typically have to engage in continuing education.

KEY WORDS: evidence-based practice, information literacy, continuing education, clinical decision making

Question Authority

One of the cardinal mantras of my youth was to *question authority.* My generation likes to attribute the phrase to Timothy Leary, although Wikipedia (n.d.) reasonably observes that many have claims to it, including less outrageous and older seers such as Ben Franklin. This first piece of advice, which essentially says to keep an open mind, may be the most difficult and is consistent with Kamhi's (2011) anecdote about physicians with widely disparate approaches to treating a significant health condition—not only did members of each group do what they had been taught in medical training, but each was ignorant that there was, in fact, disagreement about the "right approach" to the problem. In other words, we tend to accept the authority of our teachers and mentors. We should not kid ourselves that our field is immune to this problem—in fluency, if I know how a clinician prefers to treat adult stutterers, I can often correctly guess where he or she *did not* go for their graduate training. We do what we have been taught to do, at least at the onset of our careers. What happens later is up to us.

So, the first challenge is, as the old Moody Blues put it nicely, to "ride my see-saw"[1]: to recognize that nothing we do is certain, and that there is tension among competing approaches to a disorder as well as the competing characteristics of the people we see (age, concomitant problems, etc.). A seesaw works best when there is some tension among the relative weights given to the "players," in this sense, the possible answers to the clinical profile. Although

[1]All quotes not otherwise referenced are from Wisdomquotes (www.wisdomquotes.com).

one can adopt this perspective later in professional life, it would be good if the educators in our profession were the first to answer this call and make it an emphasis in graduate education. For what it is worth, I am not sure that exhortations to provide learning outcomes for courses or to check off "knowledge" on Knowledge and Skills Assessment forms really makes this point—that the most valuable outcome from all educational ventures is to understand that there are typically many perspectives on the appropriate way to handle a typical clinical problem, including those we do not yet know about and will have to learn during our growth as practicing professionals. The knowledge that we most need to know is how to engage in an ongoing process to find documentation of effective interventions and how to evaluate their value and applicability.

We Need to Recognize What We Do Not Know

This is a caution relevant to those who produce research, as well as those who are expected to consume it. It is my sense that we do not tend to emphasize this very much in training or postgraduate education, except in series focusing on evidence-based practice (EBP); that tends to be the time when we do recognize that the amount of relevant, available, high-quality information that might guide clinicians is not ideal. But we do not see this caution much in the rest of the literature or on syllabi. We just offer up the treatment approaches that have been brought forward up to now.

Given this, it is sometimes interesting to see how published reports of interventions are phrased—that a treatment deserves further trials or is appropriate for use with a given population. Rarely do we see questions about understanding the mechanisms of action that might underlie effective treatment outcomes so that they may be adapted to create new, effective treatment options. Nor do we see questions about the potential limits of the intervention for particular populations or settings. The lack of such cautions in the midst of successful treatment reports can create a sense of knowledge that is illusory. It can even result in poor practice, such as the use of an intervention with preschoolers that was only trialed on adults, and vice versa, as I sometimes witness in listserv discussions where Lidcombe is proposed as an intervention for an adult who stutters, or drugs or devices are suggested for stuttering children, despite the fact that neither has been studied in this age group to demonstrate efficacy in the absence of potentially harmful side effects.

For clinicians who are already in practice, the advice to know what we do not know is easier to justify. Each day after we graduate with our professional credentials, the knowledge base that we were tested on and supervised while carrying out changes continuously and inexorably. Since I left school, there have been more than 100,000 articles written in the major areas of the discipline (not counting dysphagia, which wasn't even in the scope of practice when I got out). Our textbooks were out of date the day we opened them, and the information we obtain in training is ephemeral—without any a priori warning as to which aspects will stay generally valid over time and which may change without warning.

What We Do Know Is Temporary, and its Value Is, at Best, Relative

As one pundit observed, "Change is inevitable (except from a vending machine)" (authorship of this nugget is claimed by many). As I have observed in other places, too many people view EBP as a destination rather than a process or way of doing the work we do. Even if we are very certain that we have found something sound, evidence based, and effective to do with our clients, there is always something new to learn that can make this information of less value. One way to consider this problem is that, if it works, it will probably never be obsolete, but it may very well be less effective than other options we have not yet heard about or considered.

We Need to Pursue New Information

"Remember what the dormouse said, 'Feed your head!'" (Jefferson Airplane: White Rabbit). I recognize that everyone says to do that, but I also know that it is not so easy to do. Study after study shows that working professionals do not have the time, or the skills, or sometimes the inclination, to search for recent literature on each case that might benefit from an information update, and even I do not want to spend short nights after long work days performing literature searches. Here is where I will make a suggestion that I hope readers will find practical and useful. I am going to strongly urge that each of you create a limited number of "alerts" for those populations, conditions, or treatments you would most like to gain or maintain currency in (and I will show you how to do this). This is because, as Bill Moyers observed, "Ideas are great arrows, but there has to be a bow." The bow, in this case, is to use technology that notifies us when information we think could be of value comes out and then guides us how to obtain it.

This is the major message I would like to convey to readers of this commentary: Make the information come to you. There are too many obstacles to setting aside the time to search for information. We know that it usually does not happen, and post hoc searches (searching because of the problematic case currently in front of you), as we have evidence to show, are usually poorly done (Bennett, Casebeer, Zheng, & Kristofco, 2006; Nail-Chiwetalu & Bernstein Ratner, 2006). Have information delivered to you. Information literacy experts agree that this is a key concept. In his tip sheet on how to keep current, Cohen (2004) urged, "Don't browse. Don't go after information to keep current— have the information come to you" (Cohen, 2004, p. 40). A subsequent tip that he offered urges us to "pick your weapon," the system(s) by which you can be automatically kept abreast of ways that the relevant, timely information can be sent to your computer or handheld device—my favorites are PubMed alerts and Table of Contents (TOC) alerts from relevant journals, as well as Google alerts. I provide quick instructions on how to set this up in the Appendix. Now that the American Speech-Language-Hearing Association (ASHA) journals, as well as many others, are going fully digital, it will become more important than ever to have notions of the issue contents sent to us—we will no longer be able to browse the back cover of the recently delivered current issue before consigning it to the bookshelf (whether before or after reading it).

Be Flexible, and Keep an Open Mind

Some have attributed musician Frank Zappa with the notion that "a mind is like a parachute; it doesn't work if it's not open." Nothing is quite as good for opening a mind-set to new notions as seeing a report of something you had never considered doing, but which appears to work, even to some degree. Ditto for re-evaluation

of your long-held belief of the value of something. For example, even if you are firmly convinced of the value of nonspeech oral motor exercises for the treatment of articulation disorder of unknown etiology, what would you do when a TOC alert sends you 10 or so fast reports of reasons to be suspicious of their value for many of our clients, just by reading the articles' titles? (This is a real topic for an actual recent issue of a journal in our field). Maybe you will keep doing what you are currently doing, but maybe you will not, and you will do something else.

Rather than start with a search for particular, specific therapies for a given disorder, clinicians might want to start with a search term that is receiving increasing attention, that of "common factors" that affect treatment outcomes to a degree that may exceed those of specific intervention procedures themselves (Bernstein Ratner, 2006; Wampold, 2005). Such research might go a long way toward moderating the conflict between certainty and uncertainty in clinical practice simply by reinforcing the importance of generalized skills that predict more successful outcomes rather than a set of prescribed procedures. Clinical knowledge and insight really do make a difference in our outcomes.

I wish to point out that if clinicians do not start using such notification utilities to stay abreast of the literature, they will soon be forced to run the searches *in response* to the clients and their family members who already do. I marveled that a family had come from many states away to hear me speak at a talk last fall. When I asked how they even knew that the event was happening, the father said, somewhat condescendingly to me, "Why Google alerts, of course." You should not be surprised that I went home and started one for "stutter*" myself the next day (actually, I will confess, that night in my hotel room). Other families have come to me, my colleagues, and the Action Center at ASHA, essentially holding "clippings" of recent news releases that appear relevant to the care they are seeking. We simply cannot afford to be the last people to know what is new in our field, whether or not it works as the media report it to, and for what types of individuals it might or might not be appropriate. A recent report on bilingualism and stuttering was carried by Google Alerts. I have received numerous calls from parents and students asking for advice, given wide media coverage of the findings. Because I already knew about the publication from PubMed alerts and had a copy of it, I could respond to them using the full report, which they had not viewed and Google could not provide.

Really Get the Details

Do not stop at the abstract! Please remember that all ASHA journals are now online for members, and many current, high-quality reports are now available in full text publicly at PubMed Central. (Google Scholar is a much less complete and much less up-to-date option.) However, many of my students, as well as graduates I am in touch with, despair that interesting information they have found on the Web is not in "full text." It is, somewhere, and at least one safe bet these days is that the *author* has a nice digital copy. When I started in this field, there was a concept called "request for reprint," and many young tenure-track assistant professors were urged to keep track of those who wrote for copies of their work, usually using quaint postcards. These days, in most posted abstracts, the author(s)' name is linked to an e-mail address, and authors receive digital proofs of their work. My experience is that you will have a pdf of the requested publication in your e-mail box within a day or so (sometimes within minutes) if you just e-mail and ask. You really can get information easily if you know how.

Try Out the Information

Information is not knowledge. Andy Warhol made the point that "they always say time changes things, but you actually have to change them yourself." A critical premise of EBP is that one tries out and then observes the results of the treatments you know as well as the new ones you become aware of. It is the observation and response that occasionally seems to be missing from some clinicians' repertoire of behaviors—they often do not seem to see that there is a problem in their practice that requires changing.

The "uptake" of research into clinical practice, sometimes called knowledge translation, is fraught with problems that go back centuries. Unfortunately, these problems still exist today, despite more and more easily obtained sources of good data that are directly applicable to practice (Doherty, 2005). Recognizing when change is needed or would be desirable is a positive attribute in a clinician, but one that appears difficult to trigger. Sometimes clinicians might not see a problem in their clients' outcomes if they do not expect their clients to be "cured" but rather have improved outcomes of some unspecified degree ("I think I am doing the best that can be expected with this kind of problem"). That others might obtain better outcomes does not really occur to them, particularly if they are not keeping up with the literature.

In other cases, it is not clear when a change in our therapy approach is needed. What we do know is that even major medical trials have failed to impact medical practice, in some cases because the physicians themselves had no desire to change treatments—they did not see what was wrong with their current approach (Williams et al., 2007). This is clearly true in our field as well. At a conference many years ago, an attendee interrupted my conversation with a much better known colleague to ask for advice—"My client has been on Step 6 of the Whatchacallit Program for 2 years now; what would you advise me to do?" His response, while sharing my sense of horror for the child's treatment plan, was a graceful paraphrase of a line from one of my favorite authors, Frank Herbert: "Do something. If it doesn't work, do something else." This requires clinicians to develop the skill to perform "self-monitoring" in clinical practice, a skill that is increasingly viewed as valuable in the medical profession (Epstein, Siegel, & Silberman, 2008). It turns out, not surprisingly, that doing something new or recommended is not enough, actually. You have to evaluate if what you are doing is doing any good for that client (although it might for a different client, so you should not toss it just yet). That is the real applicable evidence that should guide clinical practice—seeing what works for us and the clients we treat given our experience with other approaches to the problem.

I will end this tip sheet with an observation made many years ago by the futurist Alvin Toffler: "The illiterate of the 21st century will not be those who cannot read and write, but the person who cannot learn, unlearn and relearn." Kamhi (2011) and I are on the same page when it comes to the need to balance the certainty of our knowledge and skills as we pursue our clinical practice. However, I would argue that one way to create the appropriate amount of certainty and uncertainty is to keep abreast of the literature in our

field while we paddle happily and effectively in the enlarging pond of information that is germane to our work. Although repeated surveys show that most currently practicing clinicians are unable to access, evaluate, and process the huge numbers of research papers relevant to our discipline that are released each year, I am somewhat optimistic of the ability of technology and information literacy to create feasible options to bring relevant information to our attention. Inviting the emerging information into our mailboxes can help to keep our minds open, can remind us of what we do not know, and can provide us with options to try something new that our professors and clinical preceptors did not tell us. It will be up to us to understand the information, apply it, evaluate its usefulness, and keep the cycle going throughout our careers.

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Received May 26, 2009
Accepted September 11, 2009
DOI: 10.1044/0161-1461(2009/09-0033)

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APPENDIX. INSTRUCTIONS

How to Set up a PubMed Search

1. Go to PubMed: http://www.ncbi.nlm.nih.gov/pubmed/
2. Note the "MY NCBI" logo in the upper righthand corner.
3. Register; it is free.
4. Next, log on to NCBI when you go to the PubMed home page. Run an appropriate search(es). Use metacharacters and other options for increasing the number and relevance of the items that will be retrieved (Nail-Chiwetalu & Bernstein Ratner (2006). For example, instead of "stuttering", use "stutter*"; it will match stutter, stutterers, stuttering, etc. For conditions with alternatives, consider them (swallow* OR dysphag*; Specific* Lang* Impair* OR SLI).
5. On the top, near the search line, you will see an option to save your search to receive notifications; you will get to select frequency and type of notices to receive (for example, whether daily, weekly, or full or abridged abstract, etc.)

How to Set up Table-of-Contents (TOC) alerts

It is usually possible to set up a TOC alert at a journal's home page. If you find yourself looking at publications from a particular journal often (e.g., *Journal of Fluency Disorders, Journal of Autism and Developmental Disorders,* etc.), it is a good idea to start alerts with these journals. Many journals are hosted by major publishers or services (e.g., Science Direct) that will allow you to go down a long list of journals they sponsor and check as many as you find interesting to obtain alerts or RSS feeds.