Editorial

Using Evidence-Based Principles to Make Clinical Decisions

With the recent emphasis on integrating evidence-based principles (EBP) into the clinical decision-making process, I thought it would be worthwhile to assemble a special issue of JAAA concerned with how researcher-clinicians integrate evidence to create an effective treatment plan for their patients/clients. With this in mind, I asked the contributors to this special issue to “walk” the reader through the process of how they arrived at their decision(s) regarding the chosen clinical path.

The call for increased use of EBP is not unique to audiology. The implementation of EBP into medical education and other clinical practices has been going on for a period much longer than the recent trend for its implementation in our profession. In fact, there are entire books, courses, chapters, and websites on this topic!

What is EBP? It is the process by which clinicians make decisions on providing the best patient care (e.g., best practice guidelines). EBP does not support decisions based on “hunches,” or common statements such as “it’s worked before,” “this is the way I was taught,” or “this is the way it’s always been done.” Rather, EBP is based on the rigorous process of critically analyzing the research (evidence) and implementing, or not implementing, the evidence into their clinical practice.

In order to be appropriate users of EBP, a clinician must be skilled in “sizing up” the evidence based on its strength or weakness. Thus, strong evidence might be judged a Level 1 (systematic review and meta-analysis of randomized controlled trials), Level 2 (well-designed randomized controlled trial), or perhaps even a Level 3 (nonrandomized intervention study). If the evidence is judged as being Level 1, 2, or 3, then the decision might be to incorporate these results/recommendations into his or her practice because the results/recommendations are based on strong, or relatively strong, scientific evidence. If, on the other hand, the evidence is judged to be Level 4 (cohort study, case-control, cross-sectional surveys, or an uncontrolled experiment), Level 5 (case report), or Level 6 (expert opinion), then the clinician might decide not to incorporate the findings into his or her practice because the results/recommendations are not based on strong scientific evidence. It should be mentioned that the findings of Levels 4–6 might be integrated into clinical practice later if it can be demonstrated that the finding has been addressed using the methodologies of Levels 1–3.

The logic of implementing EBP into audiology practice is self-evident. Without doubt, one cannot argue against the idea of clinicians providing patient care based on the best available evidence. Clearly, the same clinicians who are providing services to their hearing-impaired patients would not tolerate any less from their own personal health-care professionals.

The five manuscripts within this issue reflect, for the most part, how these researcher-clinicians use the evidence and their experience to support their decision-making process.

Jackie Clark and Ross Roeber report on a 23-month-old female referred for hearing aid fitting after failing a newborn hearing screening. Following medical clearance, binaural digital programmable hearing aids were fit using Desired Sensation Level (DSL) parameters. Behavioral testing and probe microphone measures showed significant aided benefit. Unfortunately, decreased hearing sensitivity was observed six months following the hearing aid fitting. Radiological
studies, ordered due to the mixed component and decreased hearing sensitivity, revealed Large Vestibular Aqueduct Syndrome (LVAS). Based on the diagnosis of LVAS, a cochlear implant was placed on the right ear; almost immediate speech-language gains were observed.

Most clinicians attribute the perception of “hollowness” following a hearing aid fit to excessive low-frequency gain. Francis Kuk, on the other hand, reports on a case where the origin of a patient’s perception of “hollowness” was the result of insufficient low-frequency gain compared to a previous fitting. His paper describes the systematic process that he followed in uncovering the origin of the patient’s complaint. He recommends that clinicians follow a similar objective approach in their fine-tuning process to resolve wearer complaints.

Rachel McArdle, Harvey Abrams, and Terry Chisolm report on the effectiveness of frequency-modulated (FM) technology among individuals encountering significant communication problems despite the use of conventional hearing instruments. These authors present a case of a long time hearing aid user whose hearing aids provided decreasing benefit as his hearing impairment increased to the extent that cochlear implantation was considered. Through the establishment of patient-specific treatment goals, verification, and careful and deliberate counseling and follow-up, their patient was able to realize significant communication benefits as reported through several self-assessment measures. In addition, these authors discuss the cost-benefit implications of FM technology versus cochlear implantation.

Catherine Palmer describes a detailed and deliberate method of obtaining and quantifying the patient’s listening and communication needs. The case illustrates the use of these measures in recommending appropriate communication and safety solutions.

Robert Sweetow and his colleagues report on the issues involved in implanting two pediatric patients followed by partial recovery of hearing in the nonimplanted ear. One child had a sudden bilateral hearing loss, secondary to auto-immune ear disease. The other child had a bilateral progressive hearing loss diagnosed as Large Vestibular Aqueduct Syndrome (LVAS). These authors present the rationale for the timing of the implantation and report that the subsequent recovery of hearing in the nonimplanted ear suggests the possibility that the implant could have been delayed or eliminated as a treatment option, and hearing aids may have been appropriate. The authors also report on a number of factors that suggested that the decision to implant was appropriate.

As stated earlier, EBP is rapidly becoming an important part of the decision-making process that is required to provide quality patient care. It is essential that the EBP process become an integral part of our profession, and in this vein, I offer the following suggestions on how training programs, employers, and associations might take steps to enhance and improve upon the utilization of EBP in our daily lives:

1. Require at least one course on experimental design (statistics) and another on EBP for all Au.D. students. The skills learned in these courses would enhance students’ (and future clinicians) skills to critically analyze the literature. These skills will allow them to determine if the information is Level 1 to Level 6. This analysis will allow them to determine whether or not the conclusions drawn by the authors are valid and whether or not the findings/recommendations should be implemented in their practice.

2. Classroom lectures in clinically oriented topics (amplification, diagnosis, electrophysiology, cochlear implants, aural rehabilitation, etc.) should emphasize EBP in the decision-making process.

3. Annual evaluations for promotion or pay increase must include some evidence that the clinician is involved in activities related to EBP. Such activities might include journal clubs or brown bag seminars.

4. Professional organizations (regional, state, or national), when placing a call for papers or inviting speakers, must require evidence that EBP is included within the presentation when appropriate for the topic.

5. Employers offering continuing education opportunities for their staff must require evidence that EBP is included within the presentation when appropriate for the topic.

I am certain additional ideas can be generated to promote EBP. I believe EBP will not be implemented in the “real-world” until it becomes a core that represents who and what we are. To accomplish this as a profession, we need to emphasize the importance of critical thinking in our education and daily clinical lives.

Michael Valente
Guest Editor