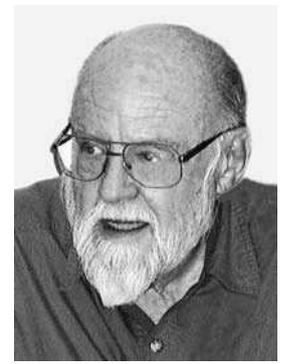


Editorial

Evidence-Based Practice and Individual Differences

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If researchers and clinicians seem to be operating in different universes, one reason may be that they tend to ask different sorts of questions. Researchers like to pose fairly broad questions involving large populations (e.g., all people who wear hearing aids), whereas clinicians prefer to ask questions focusing on the client facing them in the sound booth. Researchers typically ask questions that involve groups (Will a group of hearing aid users understand speech better in a noisy background while wearing two hearing aids rather than one?). Clinicians, on the other hand, are chiefly concerned with whether the individual in front of them will do better with two hearing aids than with one.

In spite of this difference, both researchers and clinicians share a common problem – controlled observation (How can I know whether the effect I am observing in this group/client is real?). Researchers typically approach the issue by testing groups of individuals, in order to get an estimate of the error variance in the situation, then apply techniques of statistical inference in order to make statements about the probability that the magnitude of the observed effect, averaged over the group, can or cannot be attributed to random error. Clinicians, however, seldom have quantitative estimates of error variance in a single individual. Although single-subject research designs can assist here, they take more time than clinicians are usually able or willing to devote to them. Hence clinicians have tended to rely more on intuition and on past experience with other clients.

The concept of evidence-based practice (EBP) is an attempt to bridge this gap by helping clinicians to assess the value of the evidence that research has contributed to a particular clinical intervention. EBP provides a set of procedures by which a clinician can evaluate the body of research pertinent to the issue, based on evaluation criteria involving, in part, the design of the study, the way in which participants were selected and followed, the manner in which intervention was implemented, whether outcome measures were appropriately administered, and the adequacy of the statistical analysis. With this information in hand, so the theory goes, the clinician should be in a better position to render an informed opinion.

In this issue of *JAAA*, authors Anne Olson and Jennifer Shinn of the University of Kentucky report the result of an application of EBP to the question, does amplification in the ear opposite a cochlear implant

provide improved communication function for adult users? In other words, how might the research that has already been conducted on this question help the clinician faced with a client who has a cochlear implant on one ear and wants advice on whether to consider amplification for the other ear (bimodal stimulation). A preliminary search of electronic databases, textbooks, and trade journals yielded more than 187 articles concerned with the topic. Of these, however, only 11 met the stringent criteria of EBP. A systematic review of these 11 papers yielded grades ranging from B to D, not a ringing endorsement for the quality of the research in this difficult area, but good enough for the authors to conclude that the preponderance of evidence from the review indicated “moderate” strength for the recommendation to use amplification along with implantation for adults. The authors further conclude that, although the evidence is not “strong,” it seems adequate for audiologists to encourage unilateral implantees to use amplification in the ear opposite the implant.

Perhaps the most interesting finding of this review, however, was the authors’ observation that not all research participants in the 11 studies reviewed benefited from bimodal stimulation and that, in fact, some performed even worse with an aid in the opposite ear.

It should not surprise us that there may be individual differences in the success of interventions with amplification. It has been demonstrated repeatedly for more than half a century. It is testimony to the intricacy of the hearing process, the variety of problems imposed by hearing loss, and, especially, the complexity of bilateral hearing in a less-than-optimal system. One of the potential dividends of a careful EBP review, as demonstrated in the paper by authors Olson and Shinn, is the ability to highlight and integrate evidence of genuine individual differences, not just in one study but across several studies. It may be that research based on “accept vs. reject” hypothesis testing is inherently less valuable for clinicians than research asking who benefits and who does not. Hopefully this will encourage all of us to focus more on the uniqueness of the individual rather than on the significance of the group mean.

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