Pharmacy Educators: Can an Evidence-Based Approach Make Your Instruction Better Tomorrow than Today?

Diane E. Beck  
Harrison School of Pharmacy, Auburn University AL 36849

“Though it is not my opinion. I think there is no sense in forming an opinion when there is no evidence to form it on. If you build a person without any bones in him he may look fair enough to the eye, but he will be limber and cannot stand up, and I consider that evidence is the bones of an opinion.”  
Mark Twain’s – Personal Recollections of Joan of Arc

INTRODUCTION

In the last 10 years learning strategies such as active learning, student-centered learning, problem-based learning, performance-based assessment, and outcomes-based assessment have transformed our Doctor of Pharmacy programs. Based on what you know about these programs today, do they have the “bones” to stand up and maintain their existence or will they just be another passing educational fad? In order to become better tomorrow than we are today in pharmacy education we need to assess whether our current teaching approaches really have the “bones” needed to prepare pharmacy graduates for practice today and in the future. I propose that pharmacy faculty members can accomplish this by approaching their teaching and curricular decisions much like they do research in their laboratories or clinical research centers. Specifically, they need to apply a methodical thinking process that includes consideration of the “best evidence” available when making teaching and curricular decisions.

As a Council of Faculties, how can we enable ourselves and future colleagues to make such a thinking process a routine part of our responsibility as a faculty member? Although the Task Force on Best Evidence Pharmacy Education will be addressing this issue this year, I believe the Task Force and other members of the Council of Faculties in order to proactively ensure our curricula have “bones.” Therefore, the following section provides this information for the purpose of stimulating thought and dialogue among both the Task Force and other Council of Faculties members.

BACKGROUND

Evidence-based approaches to decision-making are not new; in fact, evidence-based medicine is thought to have evolved during the mid-19th century or earlier in Paris(1). However, it did not get much attention until Professor David Sackett applied the concept in teaching Canadian medical students about how to solve clinical problems in the 1980s(2). Sackett has defined evidence-based medicine as “the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients.” This practice involves “integrating individual experience with the best available external clinical evidence from systematic research”(1). Meta-analyses of literature and other data analysis strategies serve as the external evidence.

For those who are not familiar with Sackett’s work, he has emphasized that the best available external clinical evidence involves research findings from both the basic sciences and patient centered clinical research. He emphasizes that good physicians use both clinical expertise and the best available external evidence. Sackett also emphasizes that evidence-based medicine is not impossible to practice, not “cook-book” medicine, and not restricted to randomized trials and meta-analyses. Sackett’s accomplishments prompted educators in Europe to assert that educators needed to become more “evidence-based”(3). This work also caught the attention of medical educators in Europe. However, to emphasize that these decisions realistically involve both rigorous research data and expertise/experience in teaching, the medical educators coined the term “Best Evidence Medical Education” or BEME. BEME is defined as “the implementation, by teachers in their practice, or methods and approaches to education based on the best evidence available”(4,5). Following several conferences in 1999, individuals from Europe, North America, the Middle East, and Australia have joined together and established the BEME Collaboration Group.4 The mission of this organization is to promote BEME by disseminating information, establishing resources and the methodology for producing systematic reviews of education issues, and creating a culture among all levels of medical educators that

BEME involves a thinking process that is an intrinsic component of good teaching practice. Early discussions by this group have indicated interest in broadening their discussions to other healthcare professions. Should pharmacy educators seek involvement with this Group?

Some readers may be rightfully doubting at this point and questioning whether this concept in medicine has applicability to pharmacy education. You may be even reflecting that education is “not really science” and therefore, “evidence-based” thinking has questionable relevance in pharmacy education. I beg your patience and encourage you to read further so that we as a Council of Faculties can assess whether an evidence-based approach to pharmacy education can help us ensure it has the “bones” necessary for the test of time.

It has been argued that, unlike health care, the outcomes, activities, and processes involved in education are more complex and specific in context. However, these same problems and issues really exist in health care. Some have argued that education involves qualitative research whereas medicine focuses on quantitative approaches. However, a recent review article on research methods used in American educational research has shown that, although qualitative methods are becoming more frequent, quantitative methods are still more frequently used in education. Probably the greatest challenge we face in making “evidence-based” decisions in education is creating a clearinghouse for systematic review of educational research literature. Another challenge is that the outcomes of education are very dependent on whether an individual instructor adheres to or can effectively implement the teaching strategies that are determined to be evidence-based and approved by a curriculum committee. Some will argue that pharmacy education lacks sufficient research literature within the discipline to make evidence-based decisions; however, evidence-based thinking includes consideration of established educational principles and the research of other health professional educators has applicability.

WHAT COF IS DOING

I have charged the “Task Force on Best Evidence Pharmacy Education” to review what is occurring in medical education and assess its potential applicability in helping individual pharmacy faculty members and/or pharmacy education as a whole make curricular and teaching decisions using the “best evidence” available. I encourage all pharmacy faculty members to learn more about this issue over the next few months and be prepared to offer insights at our annual Council of Faculties meeting.

FINAl POINT

As Council Chair, I want to make an important final point. Although the ideal evidence-based model describes use of extensive clinical trials, meta-analyses, and well constructed databases, these “bells and whistles” are not needed to achieve the fundamentals of evidence-based decision-making. It is important for us to reflect that these resources were not present in the mid-19th century when use of evidence-based medicine was first documented. A rudimentary goal of both evidence-based medicine and best-evidence medical education is to help the professional make a decision based on “evidence” and not on opinion.

In pharmacy education today, our most rudimentary evidence consists of research studies found in the literature and quality outcomes assessment data collected at our own individual Pharm.D. programs. What would the structure of our pharmacy programs look like if all faculty members had the ability and motivation to do the following five steps: (i) pose a question about their teaching; (ii) collect the best evidence (literature and outcomes data) about the question; (iii) evaluate the quality, utility, extent, strength, target, and setting of this literature or data; (iv) implement a change in the curriculum or teaching strategy; and (v) evaluate the change? What role and responsibility does the Council of Faculties have in helping our members achieve the knowledge, skills, attitudes, and values to accomplish these rudimentary steps? These steps are similar to those we use in our basic and clinical research. How hard would it be for faculty members to learn how to apply the same approach to their teaching?

I assert that if we approach decisions about our curricula and teaching strategies like we do those in our laboratories or patient care environments, we will achieve our desired educational outcomes. Mennin and McGrew have noted similarities and differences in the Scholarship of Teaching and best evidence medical education and have proposed that when these two approaches are combined, there is greater potential for enhancing education. What do you need as an individual faculty member to accomplish an evidence-based approach to your teaching? How can the Council of Faculties help you achieve this professional teaching responsibility? What are your potential contributions to pharmacy education if you achieve both the Scholarship of Teaching and routinely use evidence-based approaches to your teaching? The Task Force and I encourage you to share your thoughts and insights with us.

References:
