Peer Education: Reviews of the Literature (PERLs)

Articles selected by: Officers and members of University of Washington School of Dentistry Student Research Group

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Theme: Training in Research and Evidence-Based Practice: Its Role in Health Professions Education


Background: Evidence-based medicine (EBM) pairs clinical judgment with the strongest research evidence. The Institute of Medicine recommended that all medical trainees and professionals should practice EBM, so it is important to determine how well medical schools are implementing that recommendation.

Methods: Blanco et al. used an online survey of curricular deans at medical schools to assess the current coverage of EBM in U.S. and Canadian medical school curricula. The survey included questions concerning how each school defined, taught, and assessed EBM, which problems it faced when implementing EBM training, and how the school overcame these problems.

Results: The response rate was high (77.2%). Of these respondents, 95% agreed with the definition that EBM is “the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients [which involves] integrating individual clinical expertise with the best available external clinical evidence from systematic research,” and 95% reported including EBM in their schools’ curricula. The respondents identified 482 measurable learning objectives, most taught early in the curriculum. In the first two years, there was a mixture of active and passive learning, and assessment was via written exams and observation. In the third year, active learning in clinical settings was most common, and assessment was more direct (checklists, rubrics, and/or OSCEs). These curricular deans reported no formal EBM training for fourth-year students and that clinicians usually taught EBM. Insufficient time was identified as a significant barrier for implementing an EBM curriculum for 45% of the schools, while student attitudes and problems with integrating EBM into clinical care (41%), lack of faculty knowledge (28%), and lack of faculty interest (27%) were also identified as frequent obstacles. Consensus on EBM competencies was widely agreed to be helpful (41%), as was evidence that EBM improves patient outcomes (54%).

Significance for dental education: The methodology used in this study and its findings could serve as the basis for a similar survey of dental schools in the U.S. and Canada. The results concerning barriers to implementing EBM education and potential solutions for overcoming these obstacles could be helpful for educators who are implementing evidence-based dentistry (EBD) in dental schools. It is important for future clinicians to understand EBD and be able to apply EBD in their daily practice, as new techniques and materials are continuously being introduced in the dental field.

Reviewed by Monique Luu, dental student, Class of 2017; Community Service Leader, American Student Dental Association University of Washington School of Dentistry chapter; and member of University of Washington School of Dentistry Student Research Group.


Background: Evidence-informed decision making (EIDM) helps health care professionals to provide a high standard of care. It employs research, past knowledge, clinical experience, and behavior to drive the clinical decision making process. The authors performed a longitudinal study to evaluate the impact of a five-day EIDM intensive educational workshop on health care professionals’ EIDM knowledge, skill, and behavior and their preference for continuing education.

Method: In 2010, 51 attendees from various health disciplines participated in a five-day EIDM workshop. They were recruited through emails, announcements, posts on the Canadian Center for Evidence-Based Nursing...
website, and personal contacts. The workshop provided large and small group learning sessions, personal study, and opportunities for training with experienced librarians. Discipline-specific resource materials were distributed prior to the workshop. Outcomes were evaluated with quantitative surveys at baseline, pre-workshop, and at six-month follow-up, as well as with telephone interviews after the follow-up surveys had been submitted.

Results: Of the 51 workshop attendees, 40 participated in the study. Average EIDM knowledge and skill significantly improved for these participants from pre-workshop to six-month follow-up, but it decreased from post-workshop to six-month follow-up. Their EIDM behaviors showed no significant increase from pre-workshop to six-month follow-up. The participants reported being willing to participate in continuing education following the workshop.

Significance for dental education: This research underlines the importance and effectiveness of evidence-based continuing education learning interventions. The rise in these participants’ skill and knowledge from baseline to six-month follow-up indicates the effectiveness of the course. The decrease in skill and knowledge between the workshop and six-month follow-up suggests the importance of periodic refresher courses. The lack of increase in EIDM behaviors may be due to factors such as short duration of the workshop, lack of integration with practice, or accuracy of the survey. Early integration as well as continuous educational efforts over time related to EIDM in dental curricula may promote both EIDM behaviors and the desire for continuing education.

Reviewed by Anis Shakir Manshad, dental student, Class of 2017; President, Hispanic Student Dental Association, University of Washington School of Dentistry chapter; and member of University of Washington School of Dentistry Student Research Group.


Background: Research education is often overshadowed in the professional health care curriculum, and lack of research education exposure may be related to low rates of involvement in research. The objective of this study was to explore whether increased education in research methods would increase medical students’ interest in future academic careers.

Methods: Focus group data were collected from 21 American University of Beirut medical students who had participated in a peer-organized extracurricular research methodology course. This course consisted of 14 sessions, which were mostly moderated by volunteering faculty members. Approximately four months after the course, three focus group discussions were conducted to explore the participants’ reflections on the course and research in general, before and after the course.

Results: The focus group results showed that the research course positively impacted these medical students’ perspectives on research and increased their confidence to pursue their own research. It changed their original attitude that research would be too difficult to conduct because of their lack of clinical experience, time, and mentorship. The study also found a positive link between the research skills they learned in the course and the way they performed their work as future clinicians in terms of evidence-based medicine.

Significance for dental education: This article demonstrated that a course in research methods could positively impact students’ perspectives on implementing research into a career as a health professional. Although this study evaluated an optional peer-organized course, it reinforces the need for research education as part of the required curriculum for health professionals. Such a curriculum is essential in providing students with the skills and knowledge to take an evidence-based approach to their clinical practice. Integrating research courses into the dental curriculum could also motivate students to consider academic careers in dentistry.

Reviewed by Megan Hurd, dental student, Class of 2017; and President, University of Washington School of Dentistry Student Research Group.


Background: Educating future clinicians to take an evidence-based approach to their clinical work is a component of many health professions curricula. Challenging students to engage in research is a natural component of this approach. The medical school at the University of Wollongong in Australia integrated teaching about Research and Critical Analysis (RCA) into its curriculum and examined the effect on its students’ research abilities. Students were exposed to a community-based research opportunity during their year-long clinical placements.

Methods: The students in three consecutive years responded to surveys before and after the year-long placements. The students self-assessed their proficiency in ten areas of research, including the activities necessary to define a research question, write a proposal, collect and analyze the data, write a report, and publish the findings.

Results: Of the 221 students, 94% responded to the pre-placement survey, and 99% responded to the post-placement survey. After the year-long research experience, the median self-assessment scores increased significantly in all of the taught research areas.

Significance for dental education: As academic dental institutions implement evidence-based curricula, it is important to recognize the intimate relationship learning about EBD has with students’ research-related knowledge and skills. When conducting research, students are forced to think critically and logically, which effectively enhances...
their EBD-related educational experience. This study demonstrated the value of embedding research within a health professions curriculum. Exposure to research encourages students to evaluate information, determine its validity, and make informed decisions. Integrating research into dental education can promote lifelong learning and more competent graduates.

Reviewed by A.J. Morrow, dental student, Class of 2017; Peer Advisor; and member of University of Washington School of Dentistry Student Research Group.


Background: The authors of this study introduced evidence-based methods of care to a group of nurses in a neonatal intensive care unit (NICU) in Iran, where evidence-based education (EBE) is not customary. They measured whether learning through EBE made a significant difference in the health of infants the nurses were treating in intensive care. Weight was chosen as the marker of health because it is the most important factor in releasing infants to go home.

Methods: The study used a pre-post design with intervention and control groups. Each group of nurses provided care for 50 infants, who were enrolled in the study based on age, weight, and lack of health complications. Nurses in the intervention group received eight hours of EBE education about infant care, while nurses in the control group did not receive this type of education. The infants were weighed at admission, before the EBE instruction had been provided, and again two months later.

Results: The study found that the infants cared for by the intervention group gained significantly more weight than the infants treated by the nurses in the control group.

Significance for dental education: The American Dental Association (ADA) and the National Institute of Dental and Craniofacial Research (NIDCR) encourage integrating EBE in dental schools because it can elevate patient management to the highest level of care and improve treatment outcomes. The results of this study of nurses suggest that evidence-based education can have a positive effect on patient outcomes. It illustrated that introducing evidence-based care is possible even without a strong research knowledge base and EBE tradition. Increasing EBE is a valuable tool for all health professions students because it can result in significant benefits for patients.

Reviewed by Sarah McDonald, dental student, Class of 2017; Treasurer, Hispanic Dental Student Association University of Washington School of Dentistry chapter; Vice-President, University of Washington School of Dentistry Student Research Group; and Class Representative, American Student Dental Association University of Washington School of Dentistry chapter.