Understanding and Practice of Evidence Based Search Strategy Among Postgraduate Dental Students: A Preliminary Study

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Abstract

Background: One of the core attributes of competent practice is the ability to locate and analyze high-quality evidence. Research on information seeking knowledge of dental graduates is scarce.

Objective: The objective was to evaluate pertinent knowledge and skills on formulation of answerable questions and searching skills through the understanding and application of EBP.

Material and Methods: Participants' understanding and abilities to develop answerable questions in application of EBP were assessed through a quasi-experimental study design among freshly inducted postgraduate dental students at Dow University of Health Sciences. Pre and post workshop activity sessions were conducted and assessment was made through a tool that was an adaptation of the Fresno Test. The assessments performed were calculated for mean scores and standard deviations to draw descriptive results for the participants' understanding of the search items and clinical question formulation skills. Wilcoxon-signed rank test was performed to compare the pre and post workshop mean scores.

Results: Forty two participants (females = 20, males = 22) attended the workshop. Pre-workshop knowledge and understanding about the terminologies used in EBP was low among participants. Post-workshop performance of the participants to formulate a question, find evidence and search on PubMed was improved to a "Limited" level. The improvements were statistically significant but could not attain "Strong" and "Excellent" grades as far as the EBP skills were concerned.

Conclusion: This study observed a potential to improve search skills of dental graduates after their training and exposure to search strategies available on databases.

Keywords: Evidence based practice, Dental education, Postgraduate students.

INTRODUCTION

Evidence Based Practice (EBP) is "the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients."[1] As an educational paradigm, EBP allows the learners to set agenda, focus on the application rather than acquisition of knowledge and stress upon independent assessment of the available evidences. Learners practice through Assess-Ask-Acquire-Appraise-Apply method.[2,3] Formulation of a well-focused question is the first and perhaps the most important step in the EBP process and without this it can be very difficult and time consuming to identify appropriate resources and search for relevant evidence. Learners acquire evidence through clinical and best available research information and knowledge based resources which can be further appraised and applied to the different clinical situations. Currently clinicians and educators of EBP use a specialized framework, called PICO (Patient problem, Intervention, Comparison, and Outcome), to form well-focused questions that facilitate the literature search.[4] PICO formula can be used to construct several kinds of research or clinical questions originated from prior researches or clinical practice. An adequately constructed question will allow for the correct definition of which evidence is desired to solve the clinical or research question, maximize the recovery of evidence in the database, focus on research scope and avoids unnecessary searching.

To answer clinical questions, a variety of ways and interface are utilized to search the biomedical literature. PubMed, a service of the U.S. National Library of Medicine (NLM), is the most commonly used database of journals that is freely available to physicians, researchers, and the public. Using the PICO formula, PubMed may help the clinicians to articulate important parts of a clinical question most applicable to the patient and thus facilitates the searching process by identifying the key concepts for an effective search strategy. PubMed has a list of standard terms added by indexers as records to help improve search results known as MeSH (Medical Subject Headings).[5] National Library of Medicine Indexers (NLMI) allocates most specific MeSH terms to cover the topic or the concepts discussed. These terms help assure that search results include the articles about a particular topic, even when different words are used to describe the topic in the title and abstract.

The information obtained from literature searches can have a significant impact on patient care and clinical outcomes, provided the data is correctly interpreted. However, it may be sometimes very difficult to find relevant and precise evidence or literature according to the question asked, thus requiring practice. It has been reviewed that evidence based medical curricula both in undergraduate and postgraduate level is generally lacking in health institutes[6] and dentistry is no exception. Successful integration of critical thinking and evidence-based dentistry throughout didactic and clinical dental curricula continue to evolve and not all dental faculty members are exposed to such concepts during their education.[7] A recent study[8] on dental graduate competencies suggested that there is a clear need for a dental curriculum that focuses on the new knowledge and developments linked to research for best evidence based dental practice and decision making. One of the core attributes of such a competent practice is the ability to locate and analyze that high-quality evidence. Research on information seeking knowledge of dental practitioners is scarce. Dental schools are supposed to teach the skills of formulating one's own questions and search strategies to search on PubMed or other engines; but given the widespread dependence of students and internees on 'Google' may not be receiving the necessary practice. In fact, easy resources such as 'Google' may be causing a dumping down of formal evidence based practice and searching skills. Therefore, there was a need to evaluate pertinent knowledge and skills of newly inducted postgraduate dental students on formulation of answerable questions and searching skills through the understanding and applications of EBP.

MATERIAL AND METHODS

A quasi-experimental study design was used to evaluate participants' understanding and abilities to develop answerable questions and perform evidence based search. A full-day workshop titled: "Formulating Answerable Question and Developing Evidence Based Search Strategy" was conducted among freshly inducted postgraduate dental students for the first time at Dow University of Health Sciences.

The workshop comprised of three sessions (2 hours each) of lectures and hands-on practice that included formulation of clinical question as well as strategies for searching and identifying the best possible clinical