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Life-Long Learning: Lessons from a Journal Study Club

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Evaluation of scientific literature, promoting the delivery of evidence-based care, became the focus of a group of dental hygiene colleagues. The "Journal Study Club" (JSC) was established from this concept. JSC members discuss and evaluate professional issues utilizing research-based literature. Topics include patient care, public health/access to care, technology, modalities of treatment, and professional issues. For each topic, one member serves as a program facilitator researching the scientific literature on an agreed upon topic, chooses appropriate articles, and disseminates the articles to the members to read prior to meeting. Discussion at the study club event follows the format of examining literature content, relevance, significance, evidence accuracy, and application to clinical practice. This process supports dental Hygienists' commitment to life-long learning and the practice of evidence-based care, while providing a valuable venue for continuing dental hygiene competence and professional development.

Keywords: evidence-based care life-long learning, study club journal club

Introduction

The dental and dental hygiene professions are characterized by a number of recognized study clubs that bring local colleagues together to enhance knowledge and skills related to their profession. Christiansen refers to the study club as "a tradition in dentistry that has been lost and needs to be revived."¹ Leser writes that study clubs "provide an incentive for personal and professional growth, leading to better patient care."² Marchant-Turner describes a 23-year experience in a dental hygiene study club as an experience in which she "learned, and continues to learn, about all aspects of dentistry that otherwise would have been missed."³

Research is the scientific basis for health care-related practice. Exposure to research information and understanding the research process is important for translating these findings into clinical practice. Computerized databases, journals, continuing education meetings, and study clubs can provide assistance in finding the best evidence.⁴

A small group of dental hygienists in Ann Arbor, Mich, are using a journal club as a way to evaluate clinical treatment modalities, enhance critical assessment skills, and consider peer-reviewed literature to remain abreast with topics related to a professional body of knowledge in dentistry and dental hygiene. The Journal Study Club (JSC) serves as an alternative to the traditional continuing education programming by offering several advantages. The format promotes interactive participation, permitting topic selection relevant to needs and interest of the members. The JSC also provides flexibility of scheduling and allows the group to determine the number and professional diversity of the membership to best serve the group.

The JSC, with proper organization, planning, expertise, interest, and commitment, provides a format for the enhancement of knowledge and skills for the dental hygiene practitioner. The club's discussions are based primarily from articles selected from peer-reviewed journals. Peer-reviewed journals include manuscripts that have been critically analyzed and reviewed by experts in the field prior to approval for publication. This review format serves to ensure the quality and relevance of the topic and the appropriateness of the science and research. Evaluation of scientific literature, promoting the delivery of evidence-based care, is the focus of one group of dental hygiene colleagues. The purpose of this paper is to provide a brief review of the literature on the topic of journal study clubs and to describe an innovative approach to a study club in Michigan.

Review of the Literature

The American Dental Association Positions and Statements defines Evidence-based Dentistry (EBD) as "an approach to oral health care that requires the judicious integration of systematic assessments of clinically relevant scientific evidence, relating to the patient's oral and medical condition and history, with the dentist's clinical expertise and the patient's treatment needs and preferences."⁵ Keeping abreast of the latest information requires that clinicians read extensively, attend courses, and take advantage of the Internet and electronic databases to search for scientific articles.

Clinicians are expected to provide safe and effective care based on the evidence. In a guest editorial in the *American Journal of Critical Care*, Kleinpell states, "Nursing research promotes a scientific basis for clinical nursing practice. Yet, many nurses are hesitant to read research, often citing uncertainty about how to critique research and difficulty with interpretation. Reading research and promoting understanding of the research process is important for translating research findings into clinical practice."⁶

A strategy to increase awareness of evidence-based decision making methodology is to offer professional development programs that teach these concepts and skills, including asking precise questions, online searching of databases and developing, or strengthening critical analysis skills.⁷ Study clubs support a professional development format while embracing the concepts of adult learning.

Lieb describes the adult learner as autonomous and self-directed, goal-oriented, relevancy-oriented, and practical.⁸ Kuhne identifies adults as pragmatic learners who prefer taking control over personal learning and drawing on their experiences as a resource for learning.⁹ Educational research identifies learning principles important to the adult learner, which include relating the task to the immediate work experience or long term goals of the learner, presenting the learning objectives in the form of actual situations or patient problems, use of problem solving, use of multiple teaching formats, active learner involvement, and use of frequent, constructive feedback.¹⁰

In 1999, a survey was sent to 35 dental hygienists in British Columbia, who participated in 3 separate study clubs from September 1998 through June 1999. All study clubs employed a similar format but differed in content covered. Twenty-six surveys were returned (74% response rate). Results of the study indicate that all respondents made changes in clinical practice as a result of study club participation. Forty-two percent perceived that information supported by research was important to sustain a case for change (evidence-based). The most often reported reasons for choosing a study club format were: (1) control over topics (65%); (2) small group/personal atmosphere (65%); (3) social interaction with peers (62%); and (4) convenience 31%.¹¹

A variation of the study club format is the journal club. A journal club is broadly defined as a group of individuals who meet regularly to discuss articles in current medical journals. The primary role of the journal club is to benefit the individual through increased reading and critiquing skills.¹² Sheehan found that participation in a journal club developed members' analytical, critical, evaluative, reflective, and presentation skills.¹³

This club format is most often attributed to the medical and nursing professions and integrated within graduate medical education.^{14,15} The first documented organization of a journal club in North America appears to be Osler's, created in 1875

in Montreal.¹⁴ The primary purpose of initial journal clubs was to improve physicians' knowledge related to scientific advances.¹¹ Over time, the purpose of journal clubs expanded to include ways to develop or enhance the student's critical appraisal skills and educate the student in research design, medical statistics, clinical decision theory, and clinical epidemiology.¹³

The importance of evidence-based practice and the use of journal clubs for nursing professional development and knowledge transfer to clinical practice have been documented in the literature. Dissemination of information alone is insufficient to improve the practice of health care providers. Behavior change strategies, which have shown an impact on practice, include workshops providing interaction among participants.¹⁶ The journal club has been cited as a bridge between research and practice, fostering application of research to the clinical setting.¹⁷

In 2002, the American Journal of Critical Care (AJCC) debuted with the "AJCC Journal Club." Each issue features an AJCC Journal Club article with a Web site link that provides questions and discussion points to stimulate formation of a journal club and resulting discussion in which participants can evaluate new research and its applicability to clinical nursing practice.

A search of the literature found one publication related to the use of journal study in dental education. The paper described the use of literature study in a General Practice Residency (GPR) program at St. Joseph's Hospital Health Center in Syracuse, NY.¹⁸ The authors emphasized that review of scientific literature is important in post-graduate dental education as it chronicles the advancement in each of the specialties providing the foundation for critical analysis and an evidence-based approach to research. Advanced Education in General Dentistry (AEGD) and post-doctoral dental education programs incorporate journal clubs within their curriculum, with residents focusing on integrating the results of research analysis within their delivery of oral health care.

Based on literature that considered the use of journal clubs in post-graduate health care education, key features of successful journal clubs emerge. Alguire and Sidorov reviewed formal research studies when examining journal club effectiveness in resident medical specialties.^{10,19} Key characteristics contributing to successful internal medicine journal clubs were identified by Sidorov and parallel those cited in the British Columbia dental hygiene study club survey.^{11,19} These include club longevity (2 or more years) and levels of attendance (50% or more attendance of eligible participants). Other factors included provision of food, selection of original research articles, mandatory attendance, and perceived importance of the club by the program director. The small number of participants (program size) and formal instruction in biostatistics and clinical epidemiology were also considered important.¹⁹

A major goal of most journal clubs is to teach critical evaluation skills.¹³ This skill is important for any health professional reviewing information related to their field of practice. The journal club format demands an understanding of research design, research methodology, and statistics. There are resources that can assist with educating a group regarding these basic components to literature evaluation. Jane L. Forrest, RDH, EdD, and Syrene A. Miller, BA, have authored a series of articles published in the *Journal of Dental Hygiene* and the *Journal of Contemporary Dental Practice* related to evidence-based decision making, evidence-based practice, research analysis, and critical appraisal.^{20,21,22,23} Once these areas are comfortably mastered, they can be applied to literature review.

There are additional resources available that can assist the group with the critical evaluation of the literature. Checklists often provide a simple, organized approach to literature review. Burnstein, Hollander, and Barlas demonstrated that the use of a structured review instrument (formalized checklist) prompting participants to review methods and design of the study reported in an article, significantly improved the perceived educational value of journal clubs.²⁴ The application of this organized form of study is a viable mechanism for reviewing scientific literature in a systematic fashion. A number of resources are available formatting a systematic review and analysis. Key word Internet searches provide relevant links to sources often associated with research-based institutions. In the first 6 issues of the year 2000, *The Journal of Prosthetic Dentistry* presented a series of articles offering the practitioner different paradigms for clinical decision making. These articles were written to assist the reader in determining whether information presented in the dental literature is valid and/or technically correct and whether it is applicable and usable for a specific treatment in question.²⁵

Journal Study Club Organization

The Journal Study Club (JSC) based in Ann Arbor, Mich, has a formal document outlining goals, administration, financing, educational objectives, and evaluation. Members are required to prepare for the JSC event by reading and critically analyzing up to 5 research articles prior to the meeting date. A member serves as president and is responsible for surveying members requesting information on topics for future consideration and providing the results of event evaluation in an annual report.

Table I provides an outline for the framework for the development of the JSC.

Table I: Framework for the development of the Journal Study Club (Ann Arbor, Mich)

Framework for the development of the Journal Study Club (JSC)
Identify small group (5-8) of professional colleagues and formally invite to participate.
<p>Develop framework for:</p> <ul style="list-style-type: none"> • Administration <ul style="list-style-type: none"> ○ Composition <ul style="list-style-type: none"> ▪ Dental hygienists from different practice environments ▪ Dental hygienists from local component ▪ Dental hygienists with a variety of expertise ○ Format <ul style="list-style-type: none"> ▪ Meal with social time ▪ Business meeting ○ Structure <ul style="list-style-type: none"> ▪ Formal organization with officers ▪ Rotating positions of leadership ▪ Informal gathering ○ Leadership <ul style="list-style-type: none"> ▪ President/Chairperson ▪ Secretary/Treasurer Rotating positions <ul style="list-style-type: none"> ▪ Host ▪ Program facilitator • Finances <ul style="list-style-type: none"> ○ Formal dues structure ○ Donations as needed • Needs assessment format <ul style="list-style-type: none"> ○ Topic identification ○ Current issues, specific interests ○ Hosts, facilitators, meeting dates • Membership criteria/responsibilities • Educational objectives and methods <ul style="list-style-type: none"> ○ Topic identification ○ Guidelines for critical appraisal of professional research ○ Format for session (round table discussion, lecture, field trip, guest presenter) • Instructors/facilitators (members, guests) • Evaluation format
<p>Elect President of JSC. Responsibilities include:</p> <ul style="list-style-type: none"> • Maintain membership records and JSC meeting records • Submit of necessary information to Michigan Board of Dentistry to maintain JSC status as CEU provider. Distribute CEU certificates to participating members • Obtain Needs Assessment and Program Evaluation surveys from members • Submit written annual reports to members

Additional JSC benefits include Continuing Education Units (CEU) and cost control of registration fees associated with professional programming. In 2006, the American Dental Hygienists' Association (ADHA) reported that 48 states require some form of continuing education for dental hygiene license renewal.²⁶ Most continuing education courses require that organizations apply to a credentialing body for approval to present, host, or sponsor programs that meet continuing education requirements. Organizations, professional societies, and educational institutions provide continuing education programming. The intent of most programs is to focus on an area of professional development and grant CEUs for relicensure. The participant expects the presenter will provide accurate, clear, and reliable information. The hope is that the information is "evidence-based," supporting the concept that some kind of research has been connected to the body of knowledge presented to support the legitimacy and accuracy of the information.

Registration fees related to such a program are assessed and intend to cover the costs associated with the program, providing a profit for the sponsoring group. Participants attending a continuing education course must select from a preexisting list of topics, may have to travel a significant distance to attend a program, and will incur some expense.

The JSC is a Michigan Board of Dentistry approved provider of continuing education. Since its inception in 1994, the JSC has followed the protocol prescribed by the Michigan Board of Dentistry for obtaining approval and has provided associated CEUs to its members participating in JSC activities. Expenses are limited to costs associated with hosting a meeting within a member's home (food/beverages) and fees for copying and postage for distribution of articles to members. The JSC does not assess dues nor maintain any monetary fund.

The JSC small group format allows for incorporation of adult learning principles through member consensus directing topic selections. The group effort provides an environment that supports a collaborative, critical evaluation of literature considered. The professional experience of each participant and the collective knowledge shared by the members of the group provide a rich resource of information and interchange.

Journal Study Club Sessions

For all Journal Study Club (JSC) sessions, a topic and facilitator are chosen, with another member volunteering to host the event. The facilitator is responsible for selecting the research articles associated with the topic, developing a topic outline with questions to consider when reading, and disseminating materials to the members. A member facilitator may also choose to invite a "professional expert" to lead the discussion. Merits of the research articles are evaluated on the research question identified, the research design considered, methods and materials examined, evaluation of results and conclusions, and clinical application determined. Sessions also include examination of the literature content, relevance, significance, evidence accuracy, and application to professional activities. An outline for JSC meeting preparation and formatting is provided in Table II.

Table II: Meeting preparation and format for the JSC (Ann Arbor, Mich)

Journal Study Club Meeting Preparation and Format
<p>Through the use of Needs Assessment and Educational Objectives:</p> <ul style="list-style-type: none"> • Topic identified • Program facilitator identified • Meeting date and host chosen
<p>Program facilitator:</p> <ul style="list-style-type: none"> • Researches topic • Provides members with up to 5 evidence-based articles • Develops topic outline and proposes questions
<p>Member responsibility:</p> <ul style="list-style-type: none"> • 2 hours reading preparation and individual critical appraisal of literature • 2 hours meeting/discussion
<p>Meeting agenda/format presented and utilized as a discussion guide</p> <ul style="list-style-type: none"> • Review of literature presented • Additional sources identified/presented • Critical analysis of literature/discussion • Application to clinical practice • Evaluation

JSC discussion is engaging and spirited. Diversity of expertise of members fosters enhanced learning. Personal experience of clinicians related to practical application adds to the discussion. Evidence-based information from other sources is often submitted for consideration during discussion. Table III lists the content of JSC topics covered.

**Table III: Content covered in Journal Study Club sessions
(Ann Arbor, Mich)**

Journal Study Club Topics
Vitamin A and Oral Cancer
Periodontal Debridement: Use of Ultrasonics
Dental Implants: Procedure
Dental Implants: Care and Maintenance
Selective Polishing: What is the Evidence?
Hormonal Influence on Oral Health
Dental Hygiene Process of Care: A Paradigm Shift
Dental Hygiene Process of Care: Implementation
Caries Control: In-office Fluorides
Electronic Anesthesia
Microabrasion
Teeth-Whitening: Vital Bleaching
Burning Mouth Syndrome
Periodontal Infections and Systemic Diseases
Transoral Topical Anesthesia
Managed Care in Oral Health: Does it work?
Evidence-Based Approach to Dental Hygiene Care
Exploring the Internet for the Dental Health Professional
Cultural Diversity Issues for the Health Care Provider
Bosnia: A Dental Service Mission
Periodontal Risk Factors-Risk Assessment
Aboriginal Issues with Health Care
Biofilm vs. Plaque: New Concepts
American Academy of Periodontology: Exploring the Web Site

One of the challenges of a journal club is maintaining the momentum. The organization requires individuals who will share all aspects of JSC responsibility. It requires advance preparation by participants to promote productive discussions. Communication among members is essential. Electronic means of communicating and disseminating information is streamlining this process.

Conclusion

The volume of printed material and Web-based information published demands timely, critical evaluation of sources and content to ensure accuracy and relevance of information. For a group of professional colleagues, a journal club serves as

a beneficial forum to critically review scientific literature, promoting evidence-based oral health care. Commitment to life-long learning and professional development are enhanced by journal club participation.

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Notes

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