

SPECIAL ARTICLE

Using the Journal Club to Teach and Assess Competence in Practice-based Learning and Improvement: A Literature Review and Recommendation for Implementation

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Abstract. The traditional journal club has historically been used to teach residents about critically reading and reviewing the literature in order to improve patient care. The Accreditation Council for Graduate Medical Education competencies mandate requires that ophthalmology residency programs both teach and assess practice-based learning and improvement. A systematically conducted review of the literature regarding the use of the journal club in resident medical education was performed to define specific recommendations for implementation of a journal club tool. Selected best practices for a successful journal club were gleaned from the existing medical literature. These include the following: 1) the use of a structured review checklist, 2) explicit written learning objectives, and 3) a formalized meeting structure and process. The journal club might prove to be an excellent tool for the assessment of competencies like practice-based learning which may be difficult to assess by other means. Future study is necessary to determine if journal club can improve educational outcomes and promote lifelong competence in practice-based learning. (Surv Ophthalmol 50:542–548, 2005. © 2005 Elsevier Inc. All rights reserved.)

Key words. ACGME • evidence-based medicine • journal club • learning • training

Introduction

The volume of medical literature, even confined to one specialty area, that a clinician needs to review has exploded exponentially. Alper et al estimated that it would take an incredible and impossible 627.5 hours per month for a clinician to keep up with the primary care literature.² The resident in training must not only learn a new skill set and acquire a new knowledge base but must also read

the current literature, be familiar with principles of evidence-based medicine (i.e., practice-based learning), and use the evidence to improve practice and patient care (i.e., practice-based improvement).

One method to improve the efficiency and timeliness of reviewing the medical literature is the traditional journal club. For the purposes of our discussion, we define a medical journal club as any JOURNAL CLUB 543

group of interested individuals meeting regularly to discuss the strengths, weaknesses, and clinical application of selected articles from the medical literature. Journal clubs, in one form or another, have been in existence since at least the time of Osler in 1875. The journal club has long been recognized as one method to involve learners in critical appraisal of the medical literature.

Indeed, most residency programs in the United States have a journal club in some format. The multiple advantages of a journal club format for teaching evidence-based medicine have been recognized for years but its value as an assessment tool has been less defined. The Accreditation Council for Graduate Medical Education (ACGME) has mandated that all residency programs teach and assess six new competencies. ^{20,21,35–37} "Practice-based learning and improvement" is one of the more difficult and challenging competencies. New tools are needed to assess these competencies but the best tools will be reliable, valid, feasible, inexpensive, and fair. The journal club may be an ideal tool for evaluating evidence-based learning and practice-based competency. To our knowledge, this is the first report in the ophthalmic literature to discuss the ideal format and role of the journal club in ophthalmology residency training. We review the literature on journal club, collect and summarize best practices for implementation, and recommend that multicenter field testing begin for a standardized journal club tool to teach and assess practice-based learning in ophthalmology residency programs.

Methods

A PubMed literature search was performed using the search term journal club for the years 1966 to 2004. We did not include reviews of other databases, non-published works, oral presentations or meeting abstracts, or non-peer reviewed literature. The search was limited to English language, human, and abstracted citations only. The decision to include English language articles only was based upon the goal of using the journal club to manage the practice-based learning component of the ACGME mandate in the United States. Relevant abstracts were reviewed by a content expert (AGL) for topicality and applicability and appropriate full papers were summarized. Only articles pertaining to physician medical education were included. Literature from the allied health, nursing, and technical professions was included only if it added significant new information because the focus of our review is on resident medical education. Letters to the editor were included only if they added significantly to the

review because the purpose of this article was to review the literature on the application and results of journal club as an educational intervention.

At the University of Iowa Hospitals and Clinics, the department of ophthalmology has established an intramural task force for managing the ACGME competency mandate. This task force is composed of representatives from several subspecialties and faculty ranks who have a particular interest in resident education within our department. The task force members (AGL, KC, TO, HAB, RO) participated in reviewing the existing literature on journal club. In conjunction with two external program directors (KCG, ACA) from one large (Jules Stein Eye Institute, The University of California, Los Angeles) and one small (The University of Cincinnati) ophthalmology program, the task force developed a consensus for the ideal format, structure, process, and long-term objectives for journal club.

Based upon the literature review, recommendations for modifying the traditional journal club format were made that include a menu of best practices gleaned from the literature. We describe an example of a standardized checklist that is currently employed in the context of the traditional resident journal club as an educational intervention at our three academic tertiary care ophthalmology programs (The University of Iowa Hospitals and Clinics, the University of Cincinnati, and the University of California, Los Angeles). The "checklist of review criteria" is also available on-line (www.editorialmanager.com/ajo). This checklist has been described previously in the literature (www.acgme.org). ³⁴

Results

The literature search generated 249 titles and limiting the search to "English" language and "human only" reduced the number of titles to 147. Of these 147 papers, 56 articles were included in our review. 1-34,38-58 Two additional unpublished references were evaluated by the content expert (AGL) and included one from the ACGME website (www.acgme.org) and one article on the competencies which are in press. The literature on the efficacy of journal club as a teaching tool is summarized in Table 1. All of the studies have suggested that the journal club format can be an effective means of teaching the skills necessary for effective evidencebased medicine. The two randomized trials that have been performed on journal club have shown promising but sometimes conflicting results. The cohort studies and the "before and after" studies (n = 14) show some improvement in knowledge and critical appraisal skills. All of the studies however

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