

Development and Implementation of a Hospital Pharmacy Journal Club: Experience at the Children's and Women's Health Centre of British Columbia

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INTRODUCTION

The medical literature has expanded greatly in the past few decades. The National Library of Medicine currently indexes more than 4000 medical journals in MEDLINE, a database of more than 12 million articles and abstracts.¹

The utility of the journal club as a forum for participants to keep abreast of the medical literature has been documented for over 150 years. The first journal club in North America was instituted at McGill University in Montreal in 1875.² Since then, the journal club has been an established teaching modality in the medical education system.

Although the goals of a journal club are typically to encourage participants to keep up with the peer-reviewed literature and to teach them to critically evaluate the literature, other goals have been described. Simpson and others³ described a regular meeting to which participants would bring their unread stack of journals to review and share with other participants. Hartlaub⁴ developed a format whereby the selected article is not distributed in advance of the meeting. Instead, during the session, the leader of the group gives a brief description of the research question and participants are asked to suggest appropriate study designs for addressing the research question. Other nontraditional goals of journal clubs include to discuss controversies, to practise teaching skills, to prepare for board examinations, and to build a database of reviewed material for a particular group.⁵

Issues related to the format or organization of journal club sessions that have been addressed in the

literature include the value of having a leader or coordinator, the ideal number of participants, and the frequency and place of meetings.⁵ Sidorov,⁶ in a review of journal clubs for internal medicine residents, found that most designated an individual to be responsible for coordinating the sessions. In fact, journal clubs with a designated leader have higher participant satisfaction ratings than those without.⁵ Although there does not appear to be agreement as to the ideal number of participants, it has been suggested that a group size of 12 or fewer may be most conducive to valuable participation, exchange of ideas, and teaching.⁵ Regular meetings appear to be more successful than sporadic ones; however, there is less agreement as to whether one time of day is preferable over another, and this variable seems to be discipline-specific. For example, many surgical journal clubs meet in the early evening, whereas internal medicine sessions are most commonly held during the lunch hour.⁵ Although, for practical reasons, most journal clubs meet in the hospital setting, some have suggested that meeting at one of the participants' homes or at a nearby restaurant may create a positive social environment that could increase appeal.⁵ Despite these differences in format, all agree on the value of the journal club as an educational tool.

Pharmacists face the challenge of keeping up with the ever-changing drug information that is available, so that they can help prevent and resolve patients' drug-related problems. They face the added challenge of using appraisal skills in reviewing and applying the information available. A review of the medical literature (MEDLINE 1966 to 2004 and EMBASE 1980 to 2004)



using the search term “journal club” yielded over 150 articles in the medical and nursing literature. However, there appears to be a lack of published experience in the implementation of journal clubs in pharmacy. A brief description of a 4-participant pharmacy journal club at a psychiatric hospital was published as a letter,⁷ but, to our knowledge, there is a shortage of published information on how to initiate and implement a journal club in hospital pharmacy. Some of the issues related to the implementation of a journal club in pharmacy may be similar to those associated with journal clubs in other disciplines. Hospital pharmacists can learn from other disciplines’ experiences in determining the basic organization of the sessions (e.g., frequency and duration of meetings, selection of a discussion leader). However, the goals of a hospital pharmacy journal club may be different from those described for nursing or medical journal clubs, particularly because many of the latter are part of residency or training programs. In some cases, the main goals of the journal clubs may be the same, but the priority accorded to each goal may vary among disciplines.⁵

In this paper we describe our experience in developing and implementing a journal club in the Pharmacy Department at Children’s and Women’s Health Centre of British Columbia.

GOALS OF THE JOURNAL CLUB

The Pharmacy Department at the Children’s and Women’s Health Centre of British Columbia comprises 41 pharmacists, including 27 graduates of the Hospital Pharmacy Residency Program or other advanced degree programs. Twenty of the pharmacists practise in specific areas of the hospital, and each is considered to have expertise in his or her own area of pediatric practice. The remaining 21 pharmacists have either administrative or distribution responsibilities and do not participate in ward-based direct patient care.

To help the pharmacists develop the skills needed to maintain and expand their knowledge and to keep up with the current pediatrics literature (both the general pediatrics literature and the literature in their respective specialties), we created a pharmacy journal club in May 1998. The main goals were to encourage participants to keep up with peer-reviewed literature and to provide a venue for them to learn and practise critical literature evaluation. Additional goals included highlighting clinical advances in pediatric therapy and reflecting on how to design a research study to answer a question of clinical interest. We hoped that, by achieving these goals, we would also motivate pharmacists to

make critical reading a habit in their practice. Because this pharmacy department is part of a teaching hospital, we also designed the sessions with students in mind. Since we routinely host undergraduate pharmacy students, pharmacy residents, and Doctor of Pharmacy (PharmD) students in their clinical rotations, we wanted to offer them an opportunity to learn and practise literature appraisal and presentation skills.

SESSION DEVELOPMENT AND FORMAT

In planning our journal club, we felt it was important to create a “safe” environment for the pharmacists, one in which everyone would be welcome: those with or without residency or postgraduate training and those with or without designated clinical practice areas. We wanted to create an atmosphere conducive to learning, in which the pharmacists would not feel intimidated because of lack of confidence in their literature evaluation skills. We devised a format that involves monthly, nonmandatory sessions held in the pharmacy library, over the lunch hour. We chose this time of day because it is typically when pharmacists switch from clinical duties to distribution duties or vice versa, so the journal club would not interfere with their main duties or necessitate that they stay at work after the work day ended.

A journal club coordinator (P.G.) is responsible for organizing the sessions and for ensuring that staff members are notified and that the articles are distributed ahead of time. The coordinator is also responsible for identifying a different person each month to be the discussion leader. During the session, the discussion leader begins the dialogue about the article, chairs the ensuing discussion, and elaborates on points that the participants have made. In the beginning, the coordinator herself acted as the discussion leader. Subsequently, participating pharmacists began volunteering to do so. When a PharmD student is on rotation in our department, he or she is asked to act as the discussion leader for that month’s journal club.

When there is neither a PharmD student nor a pharmacist volunteer to act as discussion leader, the coordinator polls the pharmacists involved in direct patient care to see if anyone has come across an article of interest that he or she has not had time to review. From these interactions, either a discussion leader is easily identified or the coordinator is able to persuade a pharmacist to be the discussion leader. For pharmacists who feel they need assistance in leading the discussion, the coordinator offers to review the article with the person beforehand, to help the individual prepare for



the role of discussion leader. The discussion leader is also responsible for identifying the article to be discussed and ensuring that it has not been presented previously. The coordinator is consulted to ensure that the article selected for review is suitable.

A copy of the article is posted on the education board in the pharmacy, and an e-mail message containing a reminder of the date of the session and a PDF copy of the article (when available) is sent to all pharmacists. Occasionally, a nonpharmacist guest is invited to attend. For example, a member of the Intensive Care Unit medical team was invited to join us when we discussed a study about the management of acute asthma. We believe that these invited guests not only add to the quality of the discussions but also allow us to bring a multidisciplinary perspective to our journal club. The article is distributed at least 5 days before the date of the session to give participants a chance to read it and prepare for the discussion. Initially, because of our decision to make the journal club a "safe" environment and thereby to maximize attendance, participants were not required to read the article ahead of time. However, it has become apparent to attendees that they benefit more from the sessions if they come prepared for the discussion.

Because we recognize the importance of following the principles of adult learning in this setting, the discussion leader is expected to facilitate active learner participation and feedback and also to ensure that the topic discussed is related to the pharmacists' immediate practice experience. Indeed, critical appraisal skills are best acquired in an environment that promotes active learning.⁸ The coordinator monitors the journal club session to ensure that the discussion leader is not presenting a monologue. Instead, the discussion leader asks for input from attendees and encourages participation and group discussion. This way, not only is a "safe" learning environment promoted, but the potential for debate and for exchange of professional views and expertise is also maximized. By avoiding a monologue-type presentation, we also minimize the intimidation factor for participants who volunteer to act as discussion leaders.

If the person identified to lead the session is a first-time discussion leader, the journal club coordinator reviews with that person the manner in which to use the 45-minute time slot efficiently. Most of the time is spent discussing the methods and results of the study, with time allowed at the end to discuss if and how the study affects current practice, any further studies that should be done, and whether we ourselves could play a role in

such future studies. These informal discussions have at times served as a springboard for research ideas.

In the literature, some groups have reported the value of a checklist-based system to help participants in preparing for journal club.⁹⁻¹¹ These systems describe a systematic way in which to analyze a study's methods, experimental design, statistics, results, and conclusions. Burstein and colleagues¹² documented the benefit of a checklist system in improving the perceived educational value of journal club as an educational tool in a medical residency program. Hence, most of the literature supporting a checklist system comes from the teaching setting of a medical residency program. Because our journal club was mainly intended for pharmacists who are no longer in formalized training, we decided to provide the discussion leader and the participants with a simple guide that included questions to consider when reviewing a study (see Appendix 1) rather than an elaborate teaching checklist. We were also concerned that the use of a more elaborate checklist would increase participants' workload in preparing for the session or their level of intimidation and might therefore adversely affect attendance. However, when the discussion leader is a PharmD student, we refer them to other useful critical appraisal resources such as the "Users' Guides to the Medical Literature" series.¹³⁻¹⁵

SELECTION OF ARTICLES

Many different formats for journal club have been described in the literature: review of a single article^{2,10,11} or of several related articles focusing on one issue or problem,^{11,16} discussion of important review articles,^{9,11} and in-depth analysis of an experimental design.¹⁷ In keeping with the main goals of our journal club (helping pharmacists to keep up with the peer-reviewed literature and to practice critical literature evaluation), we opted to review a single primary research article at each session.

In selecting the research article to be discussed, we consider the following criteria: the journal in which it is published, the topic or issue under study, the study design, the study population, relevance to pharmacy practice, and timing of publication.

We try to select studies that have been published in reputable, peer-reviewed journals, that include at least some pediatric patients, and that involve a drug or therapy issue with relevance to pharmacy practice. Although we initially tried to select only randomized controlled studies, we found that we learned as much or more from reviewing reports of nonrandomized studies. Whenever possible, we select a study that was



published in the past 3 months, although, given our other selection criteria, this is not always possible. We also try to select a topic that would be of interest to most pharmacists (i.e., one that is not too specific to one area of practice), to maximize interest and attendance.

The following are examples of topics that have recently been discussed: epinephrine versus albuterol for the treatment of bronchiolitis¹⁸; infant formulas containing probiotic bacteria¹⁹; use of oral prednisolone for viral wheeze²⁰; azithromycin for use in patients with cystic fibrosis²¹; measles, mumps, and rubella vaccination and its association with autism²²; and asthma morbidity and the use of ibuprofen in children.²³

Rarely, we use the journal club session to discuss an article that does not meet these criteria but that relates to a “hot” topic in pharmacy practice. For example, a paper by the American College of Physicians and the American Society of Internal Medicine describing the College’s perceptions of pharmacists’ scope of practice²⁴ generated much discussion and emotion among pharmacists. That month we dedicated the journal club session to a discussion of that paper.

LESSONS LEARNED AND FUTURE DIRECTIONS

A number of studies have attempted to document the impact of journal clubs. However, most of these have evaluated teaching effectiveness in the setting of medical residency programs.⁵ Cheatam²⁵ reported on the teaching effectiveness of a journal club within a surgical residency program. A multiple-choice examination on statistical knowledge administered before and after completion of the year revealed a significant improvement in participants’ scores. Linzer and others² randomly assigned internal medicine residents to 1 of 2 groups: the first group participated in a journal club, and the control group attended a series of lectures. A test instrument administered before and after the interventions revealed that the reading habits of residents in the journal club had improved, and they had better knowledge of epidemiology and statistics than those in the control group. Critical appraisal skills improved in both groups.

We have learned that journal club can be a useful educational tool for pharmacists at our hospital. Attendance at the sessions has varied between 4 and 15 participants. Factors that appear to influence attendance include the topic of discussion and the time of year. As time has passed and journal club has become a more established part of our monthly routine, pharmacists

have begun attending on a more regular basis. It also appears that participants have become more comfortable in discussing difficult topics such as statistics. We have attributed the increase in attendance to a “word of mouth” effect among pharmacists (i.e., regular attendees are encouraging others to attend), and we attribute the increase in dialogue during the sessions to an improvement in participants’ appraisal skills. However, these are only subjective observations. We have solicited feedback from participants on an informal basis, and we have made some changes to the format accordingly. For example, on one occasion a pharmacist expressed regrets for not being able to attend that day’s session because she had to assist her colleagues in the dispensary. When asked whether holding the session at a different time of day would better accommodate pharmacists’ switch in roles between distribution and clinical activities, she suggested that the session start earlier during the lunch hour. This change was implemented recently and has been favourably received by participants. We are considering obtaining more formal feedback by means of a survey of all pharmacists (including those who do not attend journal club), to allow for a more objective evaluation. We believe it is important to survey participants for their opinion on the workload needed to prepare for the sessions, their suggestions for improvement, and their overall satisfaction with the journal club.

CONCLUSIONS

We believe that a journal club is an effective way for hospital pharmacists to learn about drug literature evaluation. It may also serve to expand pharmacists’ knowledge by helping them to keep abreast of the peer-reviewed literature. We hope that this description of our experience in developing and implementing a journal club will encourage and help other hospital pharmacy departments seeking to establish or improve their own journal clubs.

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Acknowledgement

We wish to thank Don Hamilton, Pharmacy Clinical Coordinator, for encouraging us to implement the journal club and for enthusiastically promoting it among the institution's pharmacists.

