

## Need of a journal club in every medical education setup

**Harinder Singh\***

Department of Pharmacology,  
G.G.S. Medical College,  
Faridkot - 151 203, Punjab,  
India

**Received:** 24 February 2014

**Accepted:** 26 March 2014

**\*Correspondence to:**

Dr. Harinder Singh,  
Email: dr\_harinderchahal@  
rediffmail.com

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### ABSTRACT

The scenario of scientific inscription has changed a lot with every day a new journal takes birth and so more and more manuscripts are written or manufactured in eagerness of academic endorsement/promotion, but very few academicians are appraising journals. This is a reality that the medical fraternity has exceptionally little curiosity in journal indulgent may be due to lack of proper training in this regards and the journal club (JC) is a reply to this need. Medical education workforce must develop the necessary skills to keep up with the vast amount of information available. The JC is an influential educational instrument and has played an active role in medical education for over a century. Even though, this tool has been included in the postgraduate program, there still remains a need of understanding the concept and importance of journals. This paper provides an inclusive appraisal about what a JC and how to acquire/establish it our departments.

**Keywords:** Journal club, Evidence-based medicine

### INTRODUCTION

What is a journal club (JC)? A JC is a group of interested scholars who meet regularly to critically evaluate recent articles in the scientific literature. JCs are usually organized around a defined subject in basic or applied research.<sup>1</sup>

The dictionary defines a journal as a periodical dedicated to a particular subject and a club as a formal association of people with similar interests.<sup>2</sup> If we attach these two definitions collectively, a JC could be described as a prescribed association of community with interest in periodicals devoted to a particular subject. Medical literature describes a JC as any group of interested individuals meeting regularly to discuss the strengths, weaknesses, and clinical application of selected articles from the literature.<sup>3</sup> However, a JC is much more than that.

The question arises why to have or conduct JCs? In recent years, the significance of “evidence-based medicine (EBM) or health care” has grown, and there has been a mounting drive to incorporate evidence-based practice into clinical

practice. EBM has been described as, “the conscious, explicit and judicious use of current best evidence in making decisions regarding the welfare of those in need”.<sup>4</sup> It gives the understandable impression that a well-run JC could be a key coordination for reviewing contemporary literature and discussing its implications for practice in the respective field of medical discipline.

JCs have been used as a teaching format in academic medicine for over 100 years. More recently in postgraduate medical education, JCs have become a forum to teach its members critical appraisal techniques, thereby enriching their understanding and habit of reading the medical literature. They have emerged as a method of promoting the practice of EBM and also help the postgraduates and faculty members to get familiar with the advanced literature in the new field of study.<sup>5</sup> This paper highlights the approach to the development of an effective JC and also provides a small initiative in this regard to include the way in which medical literature should be appraised or reviewed.

## HISTORY

The initial reference to a JC is found in the biography of Sir James Paget during the period of 1835-1854, it described a group of students meeting in a room over a baker's shop near St. Bartholomew's Hospital to read journals or play cards.<sup>6</sup> However, it is Cushing's description of Sir William Osler, a physician with an interest in medical education, founded a JC at McGill University, Montreal in 1875 and later at Johns Hopkins University, Baltimore that is usually credited as the first report of such an organization in North America.<sup>6</sup> His book and JCs were designed to review the latest medical research and provide a forum for club members to recommend new periodicals for the hospital library.

## AIM/OBJECTIVE OF A JC

A JC may have a number of objectives, depending on the people concerned in forming it, the participants themselves and their particular interest. Geraldine S. described how the articles are evaluated for their quality and also whether and how the findings can be applied to practice.<sup>7</sup>

Goals of a common JC may include:

- Providing participants an update of the medical literature
- Provide a bridge between research and practice and foster an application of research to the clinical setting.
- Promoting evidence-based medicine
- To evaluate current clinical practice on a particular subject
- Understanding of biostatistics and epidemiological methods
- Teaching techniques in the critical appraisal of the medical literature
- Demonstrating continuing medical education
- To help members keep abreast of current evidence for practice
- To improve members' understanding and subsequent skills for evaluating the strength of evidence needed to change practice
- To simply increase comfort with accustomed reading scientific literature
- Promoting social contact
- Fulfill requirements for Continual Professional Development.

### *Fundamental necessities to establish a JC in department*

#### *Picking up a leader*

Selecting an interested personality having effectiveness with a passion for clinical excellence and evidence-based practice. He should be someone with a strong interest in postgraduate education and one who believes that a JC plays an important role in it.<sup>8</sup>

### *Ensuring an optimum attendance and apposite time*

JC meeting schedule must be convenient to the members including faculty and postgraduate students/residents. It should be finalized in first preliminary meeting, allowing members to decide on one most favorable time that will be convenient to all. As per the literature reported, it is a general practice to typically meet during working hours for a 1-hr period on a monthly basis.<sup>9</sup>

### *Generating member's interest*

The senior member and organizer must generate an enthusiastic atmosphere about the role of the JC and make it be both stimulating and entertaining.<sup>7</sup> The JC requires all members' participation to promote the constant exchange of ideas and interactions that help optimize its teaching potential. A sitting arrangement that facilitate the maximize eye contact between members can be effective. Groups should ideally consist of 10-12 members or the organizer can decide the number without jeopardizing the key objective of JC.<sup>10</sup>

### *Formal training*

The initial few meeting of the JC may be an educational session to make participant aware of its importance and rule regulations.

Considering few important things including:

- Emphasis on reviewing the evidence-based medicine/ practice
- Basic research concepts
- Examining the literature
- General guidelines for the meetings, including future dates, times, possible topics, and future meeting leaders
- Any new/innovative idea of members that can be included in prospective meetings.

### *What are the types of JC?*

There are three ways in which a JC can be organized: current journal style, topic-based style and evidence based style.<sup>11</sup> In the current journal style of JC, the presenter chooses a list of current journals and presents relevant papers, while in the topic based style the most important papers on a chosen subject in the past 5 years are presented. In the evidence-based style of JC, a clinician describes a clinical problem at the end of one JC meeting.

### *Fundamental preparation to lead a successful JC session*

- Article selection should occur at least 3 weeks before the scheduled presentation.
- Posting and distributing of copies of JC leaflet/invitation with the research article to the entire JC member in advance or may be 1 week in advance.

- Set up a convenient meeting time and location
- Preselect one or two residents or interested faculty member to lead the discussion
- Encourage participants to read the article in advance for preparation and thorough discussion.

### ***How to critique a JC***

The overall goal of a research critique is to formulate a general evaluation of the merits of a study and to evaluate its applicability to clinical practice. If members are familiar with article critiquing then it is a bonus, but this can be remedied at the first few meeting by selecting an article that describes how to analysis other articles. A research study can be evaluated by its component parts, and a thorough research critique examines all aspects of a research study. Some common questions used to guide a research critique include:<sup>12-15</sup>

#### ***Description of the study***

- What was the purpose of the research?
- Does the problem have significance to medical science or relevant subject?
- Why is the problem significant/important?
- Identifying the research questions, objectives, or hypothesis (es).

#### ***Literature evaluation***

- Does the literature review seem thorough?
- Does the review include recent literature?
- Does the content of the review relate directly to the research problem?
- Evaluating the research cited (references) in the literature review and the argument developed to support the need for this study.

#### ***Conceptual framework***

- Does the research report use a theoretical or conceptual model for the study?
- Does the model guide the research and seem appropriate?
- How did it contribute to the design and execution of the study?
- Are the findings linked back to the model or framework?

#### ***Sample***

- Who were the subjects?
- What were the inclusion criteria for participation in the study?
- How were subjects recruited or appropriate randomization done or not?
- Are the size and key characteristics of the sample described?
- How representative is the sample?

### ***Methods and design***

- Describing the study methods.
- How were the data collected?
- Are the data collection instruments clearly described?
- Were the instruments appropriate measures of the variables under study?
- Describe and evaluate the reliability of the instruments. (Reliability refers to the consistency of the measures). Will the same results be found with subsequent testing?
- Describing and evaluating the validity of the instruments. (Validity refers to the ability of the instrument to measure what it proposes to measure).

### ***Analysis***

- How were the data analyzed?
- Do the selected statistical tests appear appropriate?
- Is a rationale provided for the use of selected statistical tests?
- Were the results significant or insignificant?

### ***Results***

- What were the findings of the research?
- Are the results presented in a clear and understandable way?
- Discussing the interpretations of the study by the authors.
- Are the interpretations consistent with the results?
- Were the conclusions accurate and relevant to the problem the authors identified?
- Were the authors' recommendations appropriate?
- Are study limitations addressed?

### ***Clinical significance***

- How does the study contribute to the applied knowledge?
- Discuss implications related to practice/education/ research
- What additional questions does the study raise?

### ***How to present a paper in a JC and its guidelines***

The following strategy serves as scaffolding around, which the presenter can device an individualized talk. It is typically a 45 min to 1 hr presentation.<sup>11</sup>

#### ***Introduction (10-12 min)***

The presentation should begin by briefly stating the main problem(s) or hypotheses being addressed (2-5 min). Then is the introduction of the authors, the paper and why the paper is important. A short review of the necessary background information should be presented (8-10 min). Background information provides an intellectual framework for the problem or the area being covered in the paper.

### *Presenting and evaluating core data (30 min)*

The specific problem being covered should be restated, and the main conclusion should be presented upfront. This helps the audience to understand the logic behind the experiments being described (1 min). The experimental design should be outlined briefly. Explain a few figures from the paper, how the data support the conclusions and fit into the model.

### *Summary (5 min) & ending*

After the entire paper is covered, finish with a short summary of the conclusion, how they justify the original hypotheses and any general comments about the paper. Conclude the presentation with a simple “Thank you for your attention” or “Thank you”.

### *Open discussion by members*

A thorough discussion touching every aspect of the article will be more helpful, and it will clear all doubt. A senior faculty member may add his/her personal experience in this regard to put more emphasis on fair analysis of said journal and summaries the relevance of discussed matter.

### **Evaluation of a JC**

Periodic enhancement is necessary to keep the JC inspiring. The best way to decide this is to ask the regular member whether they are satisfied with the session. Different approaches to evaluate a JC are:<sup>5</sup>

- Use periodic written surveys to assess the goals and overall satisfaction of the participants.
- Survey of members, if attendance is suboptimal to decide whether a change in meeting time and/or duration may improve attendance.
- Evaluate knowledge gained by participating members using either self-evaluation surveys or by more objective measurements using a pre-/post-test format.

### **CONCLUSION**

Currently, in our country, the reality of JCs in postgraduate medical education is very limited and only few institutions have their regular JC with mandatory attendance. It should be mandatory to include JC section in the trainee logbook, but the trainees as well as many supervisors are not very well aware about its importance as a training tool for research, critical appraisal, and learning medical writing.

A JC can be an influential promotional tool for our departments – by running a JC we may demonstrate a commitment to evidence-based practice.

Keeping these facts in mind, JCs should be more properly and more thoroughly incorporated into the postgraduate educational curriculum mandatorily, which is still not being done in many educational setups. There is an imperative need that JCs should be established in every training institution. Prescribed training through workshops and CMEs should be arranged about how to establish and conduct effective JC meetings in our departments.

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: Not required*

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doi: 10.5455/2319-2003.ijbcp20140632

**Cite this article as:** Singh H. Need of a journal club in every medical education setup. *Int J Basic Clin Pharmacol* 2014;3:574-7.