



Journal Club: A Club for Medical Education!

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ABSTRACT

Journal club (JC) is an effective and valuable tool in medical education. Critical reasoning and evidence based medicine practice are core competencies required by medical professionals. In times of today journal club offers several advantages, e.g. update with current literature, promote evidence-based medicine, demonstrate continuing medical education, learn critical appraisal skills and promote social interaction and debate. However, this tool remains largely underutilized. Practice of inappropriate methodology results in failure to achieve the intended outcomes. This report attempts to track the history of journal club, its types, current innovations made and role in medical education. It explores the potential utilization of this tool in times to come.

Keywords: Journal club, Medical education, Postgraduate, Critical appraisal.

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INTRODUCTION

Globally, three generations of educational reforms characterize progress of medical education during past century. The first generation, launched at the beginning of 20th century, focused on science-based curriculum. Around the mid-century, second generation introduced problem-based learning and emphasized on evidence based practice. Third generation of reform puts forward a vision: all health professionals in all countries should be educated to mobilize knowledge and engage in critical reasoning and ethical conduct.¹

Most countries have undertaken mixed patterns of reforms. The current focus in medical schools is on developing critical reasoning skills of medical students. In this context, it is important to review the

existing tools of medical education. We have attempted to review 'journal club', a century old tool for postgraduate medical education.

Journal club (JC) has gained more relevance in medical education in times of today.² Mark Linzer defined JCs as 'a group of individuals who meet regularly to discuss critically the clinical applicability of articles in the current medical journals'.³ JCs help in accepting or rejecting the research evidence by laying the foundation of critical thinking and reasoning. It models a bridge between research and practice, facilitating better practice of evidence based medicine.⁴⁻⁷

Physicians practicing evidence based medicine should have excellent skills in critical appraisal, ability to dissect medical literature, analyze strengths and weaknesses of studies and adjust their approach to patient care accordingly. JCs use participative adult learning methods to facilitate better knowledge and literature awareness through group discussion with peers. They provide a unique opportunity to promote interest in research, while learning from experts about knowledge gaps and future research questions.²

HISTORY OF JOURNAL CLUB

The earliest reference to a journal club is in the biography of Sir James Paget during the period 1835 to 1854, in which a group of students met over a baker's shop near St Bartholomew's Hospital to read journals or play cards. However, it is Cushing's description of Osler's journal club in Montreal, 1875 credited as the first report of such an organization in North America. The origin of journal clubs was primarily for the fact that journals were too expensive for the residents to buy, with sharing and discussing the only option. By the year 1900, journal clubs were routinely practiced in medical schools and evolved as a form of continuing medical education during the years 1917 to 1975.³

In 1966, Professor Mattingly at the University of Exeter wrote one of the first articles which specifically discussed medical journal clubs. The early 1980s produced a number of reports concerning individual experiences with different journal club formats. The newer references describe JCs as a setting in which participants could learn the critical reading skills for a deeper understanding of the medical literature.³ Since these early descriptions, JCs have become ubiquitous in medical education training programs.⁸

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GOALS OF JOURNAL CLUB

More recently JCs have been used as a vehicle to teach critical appraisal skills, research design, medical statistics, clinical decision making and clinical epidemiology.⁹⁻¹² The advantages can be multifold: to keep up with literature, promote evidence-based medicine, demonstrate continuing medical education, learn critical appraisal skills, promote social interaction and debate.¹³ There are several nontangible benefits of conducting journal clubs; Improvement in presentation skills, scientific writing skills, reading comprehension and communication skills. There are journals that offer a section for publication of journal club. Journal clubs can also be sent for sections in selected summary and student's section.

It is reported that innovations in JCs methodology and type will help in fulfillment of diverse goals in the academic years of medical students.

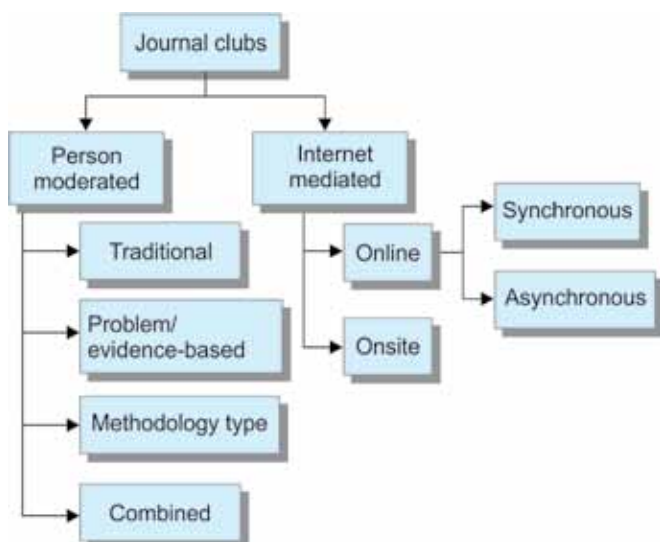
TYPES OF JOURNAL CLUB

Medical education journal clubs are of value to postgraduate students of various disciplines in medical colleges. Purpose for conducting journal club should be clear, e.g. updating on current research requires presentation of more than one article and detailed methodological discussion needs less emphasis. In case of journal clubs presented for critical analysis or methodological review, single article needs to be discussed at length.

Journal clubs (Flow Chart 1) can be broadly classified on the way they are administered to participants, e.g. in-person moderated and internet based. In-person moderated is commonly practiced in medical colleges till date.

Journal clubs can be differentiated based on methodology adopted while conducting JC, e.g. traditional, problem/evidence-based and combined type journal clubs. In the traditional type of journal club, junior doctors select articles and seniors critique their presentation.

Flow Chart 1: Classification of journal clubs



Problem and evidence-based journal clubs are conducted in a systematic manner and score over other types of journal clubs. There is systematic search of literature to identify relevant articles and critical appraisal is done based on structured guidelines.⁸ This concludes with presentation and discussion of the findings with peers and seniors. Innovative type of journal club by International center for allied health evidence (ICAHE) adopts this methodology.¹⁴

In methodological type of JC, research methodology used in studies is critically analyzed. There are guidelines for investigators to aid the evaluation of studies: CONSORT (Consolidated Standards of Reporting Trials), QUORUM (Quality of Reporting of Meta-analyses), MOOSE (Meta-analysis of Observational Studies in Epidemiology) and STROBE (Strengthening the Reporting of Observational Studies in Epidemiology).¹⁵ Combined JCs utilize dimensions of problem-based JCs with methodology teaching.¹⁶

The internet based JCs use multimedia interfaces to transfer knowledge to meet individual preferences.¹⁷ Internet mediated journal clubs can be online or onsite type. Online journal clubs can be Synchronous type (All participants take the journal club at a scheduled time) or Asynchronous type (Participants take the journal clubs at different time).¹⁸ Internet based JCs have advantages as they are require less time, are more comfortable for faculty, students and help in maintenance of a permanent academic record.

Evidence based review surgery (EBRS) packages, a form of internet based journal clubs have been adopted by Canadian Association of General Surgeons and American College of Surgeons. Cochrane student's JCs are initiated online by Cochrane Collaboration.

However, internet based journal clubs have issues of security, lack of motivation among participants to actively participate in online discussion and computer unfriendly attitude of some residents. Research is required to understand what aspects of internet curriculum are necessary in order to increase satisfaction and participation of residents.¹⁹

EFFECTIVENESS OF JOURNAL CLUB

The first randomized controlled trial (RCT) looking at the impact of journal clubs on knowledge, reading habits and critical appraisal was done in 1988. Medical interns received either journal club teaching or series of seminars as interventions. Improvement of knowledge was reported in 86% of interns in JC group compared with 0% in the control group.²⁰ Systematic review on journal club effectiveness reported over 80% studies signifying JCs effectiveness in improving knowledge and critical appraisal skills.²¹ Another systematic review done on effectiveness of JCs in promoting evidence-based medicine reported JCs instrumental role in application of critical appraisal skills. However, their utilization in clinical

practice remained unexplored.²² Community medicine residency trainees in a developing country reported greater acquisition of critical appraisal skills and were better informed with current literature through JCs.²³

Traditional journal clubs were proven to be effective for assessing and documenting teaching in problem based learning (PBL). Structured journal club checklist was an effective adjunct for the same.⁶

CURRENT INDIAN SCENARIO

Medical council is the regulating body of medical education in India. It has recognized JCs as an important teaching and training tool for postgraduates. However, there are no guidelines on frequency with which it should be conducted. There is paucity of data on number of medical colleges conducting JCs in postgraduate teaching curriculum. Most common type of JC practiced in India is of in-person moderated and traditional variety. Very little research has gone into the methodology and effectiveness of journal club in India. A study conducted in SGPGI, Lucknow, reported that better infrastructure and training in the medical institutions of India are not reflected in the quality of journal clubs.²⁴ Very modest attempt has been made to make it interactive, innovative and beneficial to the participants.

Indian Council of Medical Research (ICMR) in collaboration with South Asian Cochrane Network and Center (SASIANCC) initiated a web-based student's journal club in early 2011. This initiative was led by a group of enthusiastic medical students and doctors from India and Pakistan who aimed to create awareness of evidence-based healthcare in medical student's community.

CONCLUSION

Journal club is an effective and valuable tool in training of medical postgraduates. Core competencies required by medical students are well addressed through JCs. Medical education JCs offer unique way of assessing literature in a collegial and supportive manner. Participants remain current in the field while learning and applying critical appraisal skills. Technological advancements should be utilized to make it interactive, interesting, beneficial and comfortable for the participants.

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