

A Pedagogical Problem in Developing Countries: Undervaluing of Journal Club in Medical Training

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Summary:

A journal club is a scholastic conference in which a group of persons discuss issued articles, providing an opportunity for a shared effort to keep up with the current writings. The emphasis of journal clubs has supposedly shifted over the years. What was once a setting in which the world's recent literature was analyzed became a setting for talking over clinical issues raised by the writings and, most recently, a setup for learning critical reading abilities to physicians or other associated authorities. Nevertheless, so far there is no generally accepted definition of journal club, even though this academic method has been around for more than a century and has evolved basically during this period. In the present paper, conceptual and applied features of journal club, especially in developing countries, is surveyed, to discuss an apparent underrating of journal club in some medical departments, which could be due to misunderstanding of new philosophies, or to talk about the necessity of modification of an academic misconduct, which could be attributable to didactic unawareness.

Keywords: journal club; medical education; medical training; educational instruments

Introduction:

A journal club is a scholastic conference in which a group of persons discuss issued articles, providing an opportunity for a shared effort to keep up with the current writings (1). A journal club serves three goals: a) teach and improve critical evaluation skills, increase exposure to quickly evolving medical writings and help in informed clinical training; b) They speed up better familiarity and literature cognizance through group discussion with peers; c) They give an exclusive chance to endorse interest in research, while learning from professionals about knowledge breaks and future research queries (1). The emphasis of journal clubs has supposedly shifted over the years. What was once a setting in which the world's recent literature was analyzed became a setting for talking over clinical issues raised by the writings and, most recently, a setup for learning critical reading abilities to doctors or other associated authorities (2). Nevertheless, so far there is no generally accepted definition of journal club, even though this academic method has been around for more than a century and has evolved basically during this period (3). On the other hands, there is a huge potential to make journal clubs dynamic, modern and interactive and keeping them alive by dispelling obsolete opinions. Journal clubs help the post-graduates in keeping well-informed of new data, endorsing attentiveness of current research discoveries, learning to critique and assess investigation and inspiring use of inquiry in practice (4, 5). So, improvement of knowledge and reading routines, while keeping the impetus of medical information may create interest for research. Since the regular educational sittings, formal appraisals, or integrated evidence-based medicine teaching scarcely challenging this curriculum, journal clubs remain crucial in post-graduate medical education (1). Evidence-based medicine is defined as the 'conscientious, explicit and judicious use of the current best evidence in making decisions about the care of individual patients' (6). The alternate to this is 'I do as I wish', or whim-based medicine, or 'I do as my teacher does', or eminence-based medicine, and they both are neither standardized nor cost-effective and definitely not reproducible and often pitifully defenseless in the court of law. Devotion to evidence-based practice necessitates latest information and a thorough understanding of critical evaluation to navigate the minefield of medical works which adds on every day at shocking extents. Regrettably, physicians often begin clinical life deficient in these abilities as these talents



are not taught amply to them in medical schools. A journal club fills in this break of data and helps one practice evidence-based medicine from now on (1). In the present paper, conceptual and applied features of journal club, especially in developing countries, is surveyed, to discuss an apparent underrating of journal club in some medical departments, which could be due to misunderstanding of new philosophies, or to talk about the necessity of modification of an academic misconduct, which could be attributable to didactic unawareness.

Background:

From the time in 1877, when Sir William Osler started the first formal journal club for undergraduates at McMaster University, nearly all good departments, teaching various divisions of Medicine and Surgery, have attempted to have a journal club (7). Sir William originally initiated with the idea of expediting distribution of high-priced journals and later advanced it into a book and journal club, which met over dinner to check the newest in medical research. He wanted that the journal club should 'afford opportunities, which after graduating you never get, of learning how to prepare papers and express your ideas correctly'. He also hoped the meetings would secure 'training in the difficult science of debate' (7). These aims of promoting the discussion and critique of research remain largely the essence of every journal club even today (1). The first randomized controlled trial about the effect of journal clubs on knowledge and the critical judgment was done in 1988. Medical interns received either journal club teaching or a series of conferences. Approximately 86% of the journal club group testified developments in their reading behaviors compared with 0% in the control group. Journal club contributors, as well, attained greater knowledge scores (8). Journal clubs were found to improve reading conducts, information of epidemiology and statistics and use of medical texts in practice. It enabled an interest in research and this, in turn, powered evidence-based medicine and delivery of a medium that inspired discussion and debate (1). As said earlier, initially the main goal of the journal club was to help applicants keep up-to-date of the growing body of medical writings. Over time, the emphasis of journal club has progressed to teaching critical evaluation skills and evidence-based medicine, while maintaining the original goal of helping apprentices and practicing physicians to keep informed about the research works in their field (9). Currently, refining reading habits, teaching critical assessment abilities, increasing the use of medical writings in clinical practice, improving patients' care, and increasing knowledge of clinical epidemiology and biostatistics, are among the main goals of journal club (10) (Table 1). On the other hand, the flexibility and academic challenge provided by journal club have encouraged its usage not only in general medicine and several medical specialties, but also in dentistry, nursing and other related health professions (11, 12 and 13).

Discussion:

Over the last 10 years, a number of publications have talked about the aims, setting, and teaching approaches of residential journal clubs and evaluated the related outcomes (14-17). Though many articles discuss how journal clubs can be used to appraise medical writings, only a few have studied what physicians are really doing (18). While journal club is a respected

method of reviewing and discussing the scientific works in medicine, till now there is no generally accepted description of that (18-26). Also, while most training programs support journal club, they are not similarly successful in meeting their scholastic purposes or maintaining resident's attentiveness (9, 22) (Table 4 and 5). But unfortunately the situation of journal club in developing societies is not in all places or departments suitable, which can be due to lack of pragmatic insight or rational knowledge about the basic principles and goals of journal club (Table 1). Unsystematic choice of articles, non-attendance of accomplished director or well-informed faculties in meetings, lack of planned strategy for evaluation of sessions, deficiency of incentives or rubrics for comprehensive presence of apprentices, subjective stress on only one aspect of journal club, like keeping in touch with the growing body of medical writings or news bulletin, focusing on abstracts in place of full articles, replacing systematic research articles or clinical studies with short communications, opinions, commentaries or letter to editors, which usually involve open or non-randomized investigations or analyses, ceaseless choice of review articles or systematic review articles, which usually get around detailed method and materials of designated researches and may become dependent on analyzer's inclinations or orientations, are among the messy performances of some medical departments in developing countries with respect to journal club conferences. Also, though the scientific value of an individual article has nothing to do with the impact factor of a journal, and genuine impact factors for journals vary noticeably across disciplines, selecting articles, habitually or uncritically, from journals with impact factor of ≤ 1 , instead of journals with impact factor of ≥ 3 (3 = good, 10 = excellent), may weaken the said objectives due to conceivable methodological inaccuracies or uncertain conclusions (27). On the other hand, some scholars have suggested choosing a good journal with a very high rejection rate. For example, the New England Journal of Medicine has a rejection rate of over 90%, thus ensuring the scientific quality of its papers. Similarly, looking for the name of the institution, the author's name, the probable grant support, and a note about whether the selected paper was awarded by an organization or presented at an international meeting, and finally the gap between the dates of submission and acceptance have been proposed as helpful parameters for deciding on a journal club article (1). Also, considering journal club as a cross-sectional and unidirectional academic instrument, instead of a longitudinal and multidimensional educational apparatus, which can be shortened, displaced or deleted at all, if seems compulsory to the residents or faculties, roots in misunderstanding or unfamiliarity with regard to present speed of advancement of medical sciences and skills. Future methodical researches depend on past informative achievements and such an appreciated purpose cannot be attained by sidestepping the current scientific techniques and outlooks. On the other hand, since journal club is a link between earlier studies and current explorations, which can formulate the progression of parallel examinations, chronologically or conjointly, it is an applicable enlightening instrument for planning the algorithm of upcoming proposals or researches. For the same reason the scientific value of nominated journal or article is an important issue in journal club. Residents need genuine, sturdy and scrupulous foundations for planning and constructing their own proposals, and a well-thought-of article from an esteemed journal can make such an intention available. Reducing journal club into



a just informing maneuver, which is a well-known attitude among faculties and residents, may sometimes end into more restriction of abstracts, for saving time, and reading merely conclusions of a series of nominated articles. Such a scheme, while is valued during final exams, is not appreciated as an educational program. Likewise, restricting article choice to a specific range of people, such as residents in the last academic year, who are preparing themselves for final tests, instead of an all-inclusive policy that includes all residents, may discard generalization of the aforesaid academic benefits (Table 1). Undoubtedly, any particular group with its own purposes can have and do their own conferences, without making vulnerable the curriculum. All apprentices should know that each course or program of study has its specific essences and ideas, which should be presented by related instructors from the opening steps. So, some preliminary exploratory sessions for new learners, before starting of official meetings, is a proper maneuver for ultimate attainment of such academic goals. Since some of the present apprentices will be the future academics, without getting the main keystones of a program they cannot carry out their pedagogic responsibilities meticulously and may not transfer a through concept to the next learners. But how such an academic process is possible? Maybe by means of repeated inquiries (26) (Table 2); this may give the necessary feedback for further modification of educative efforts. Moreover, the routine evaluation of sessions by listeners can emphasize the importance of meetings and highlights effectively the objectives of journal club (Table 3). While it is comprehensible that changing academic routines, as like as other conducts, is not always easy or free from other intervening factors, medical education needs a continuous upgrading, if it desires to become perfect. In addition, there is no guarantee that underestimation of a specific course may not spread to other set of courses. Since the educative instruments are not indefinite, every fragment of a training program should be considered prudently. Maybe, relative deficiency of academic literature with respect to pedagogic strategies or guidance, in opposite to various available clinical medical textbooks, may have increased the scholastic negligence, especially in some developing countries. Anyhow it is not deniable that providing general educational recommendations, too, demands specific systematic research and formulations. Today, for some scholars in developing countries, scheme of journal club seems mostly as an academic routine than a methodical style. While some aspects of journal club, like setting or mentorship, have been probed by interested scholars (18-27), the foremost acknowledged purposes of journal club (Table 1), as well, demand disciplined study individually. Such a standpoint is in accord with the finding of Lentscher et al., who sought to find the effect of a structured journal club curriculum that incorporated The Lancet Handbook of Essential Concepts in Clinical Research on objective and self-assessed knowledge of residents, based on a retrospective observational study, and found no significant improvement in resident self-assessed knowledge following curriculum implementation; though there was a trend toward improved objective knowledge. So, he as well concluded that there is a lack of standardized and well-studied methods to teach residents how to check and appraise medical literature and research (28). Therefore, while Training in literature appraisal and statistical interpretation is one of the residency training requirements, and often a journal club format is used to teach this competency, this teaching modality is not standardized or well-studied regarding its efficacy. So, despite the fact there is huge

published literature, which describe the presentation of journal club in different surroundings and for different health clients, no 'Gold Standard' for conducting a journal club, or to assess its usefulness in translating knowledge into practice is obvious (29). Thus, it is an ongoing challenge for clinicians to plan and sustain an exciting and educational journal club blueprint that helps the contributors to stay up to date with the scientific and medical texts, and to translate journal club activities into evidence-based practice (30, 31). So, lack of valid papers with respect to the usefulness of journal club in the field of medical education is still visible (32). There are many reports of its use as an instructive instrument and stratagem, but almost none about its application for discussing medical published papers from an educative standpoint (33). Achievement of such intentions will help to shape analogous and arranged journal club sessions in all places.

Conclusion:

Journal club, as an important educative instrument, demands a novel appraisal, theoretically and pragmatically, especially in developing countries, for realization of its enhanced short-term and long-term valued goals. Achievement of scientific purposes demands correction of academic attitude, abating unreasonable underrating, and expansion of pedagogic objectives and successes.

An educational instrument and stratagem
An scholastic method for improving patients' care
Increasing the use of medical literature in clinical practice
Keeping up-to-date of the growing body of medical texts
Talking over clinical issues raised by the literatures
Analyzing recent literature
Learning critical reading skills
Refining reading habits
Teaching critical assessment skills
Translate JC activities into evidence-based practice
Increasing knowledge of clinical epidemiology and biostatistics

Table 1: Essential objectives of journal club. ¹⁻⁵

- Q 1-In your opinion what is the most important goal of a journal club (JC)?
- Q 2-Which of the above goal/goals is achieved by JC?
- Q 3- Found attending JC to be of educational value.
- Q 4-You found preparing for JC to be of educational value.
- Q 5-In your opinion JC helped in development of research protocols.
- Q 6-Has your research work/dissertation come out of a JC?
- Q 7-Presentation at JC helped refine your research work?
- Q 8- In your opinion JC provides good review of public health related literature.
- Q 9-In your opinion JC provides stimulus to further review a topic.
- Q 10- In your opinion JC facilitates development of critical appraisal skills.
- Q 11-Please indicate the most important reason/reasons for your decision to attend JC.



Q 12- Which key journals would you like to be made mandatory for the residents to review?
Q 13- Which of the methods for continuing education do you prefer the most?
Q 14- Do you think that introduction of a standard check list for review of different segments of an article would be helpful to improve resident participation?
Q 15- In your opinion the current format of JC is satisfactory.
Q 16- In your opinion is residency program faculty participation in JC satisfactory?
Q 17- In your opinion is departmental faculty participation in JC satisfactory?
Q 18- Have you ever presented a mock presentation before JC?
Q 19- In your opinion is presenting a mock presentation a valuable exercise in preparing for JC?
Q 20- Have you ever been assigned the responsibility of JC coordination?
Q 21- In your opinion is/was coordinating JC was a helpful experience to your own residency training?
Q 22- Is the timing of journal club (i.e. the first thing in the morning) appropriate?
Q 23- Recommendations to improve over all quality of JC.

Table 2: A questionnaire for valuation of pedagogic usefulness of journal club. ²⁷

Timeliness of resident preparation and communication regarding the development of the presentation
Analysis of the study design, validity and applicability of the results to his/her practice
The resident's overall contribution to journal club in terms of presenting their paper or leading the discussion
Appropriateness of visual aids during conference
Concise and accurate presentation of article
Ability to answer questions from the audience
Overall performance

Table 3: Appraisal of presentation of journal club.

Teaching and using critical appraisal skills ¹⁹
Regular and scheduled meetings ¹⁹
Appropriate meeting timing and incentives ¹⁹
Regular attendance by faculty members ²⁰
Mandatory attendance by apprentices ²⁰ , or at least 50% attendance ²¹
Smaller size of participants (12 or less residents) ²²
Adequate longevity of program (at least two years) ²³
Clear short-term and long-term goals ²⁰
A trained journal club leader for choosing papers and leading discussion ^{18,19 and 24-26}
Circulating papers prior to the meeting ¹⁹

Proper using of internet for online conferences, broader participation of contributors or wider presentation of session ²⁰
Summarizing of journal club findings ¹⁹
Use of a structured checklist ^{18,27}

Table 4: Characteristics of successful journal clubs.

Lack of time
Inadequate preparation
Lack of clear goals
Lack of interest
Insufficient participation
Lack of designated leader

Table 5: Common reasons for discontinuing journal club. ^{28, 29}

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