

How to do a journal club, a seminar and a webinar?

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ABSTRACT

The topics for postgraduate teaching-learning tools are Journal club in-house with one speaker and a moderator, Seminars- with multiple speakers and a co-ordinator, and Webinars- online seminars with one or multiple speakers choosing multiple mediums of communication. They largely affect the working mechanism of a clinician as they help us upgrade with the recent development in our fields. Making them interesting for us as well as our colleagues is necessary. This article presents a few facts as well as tips and tricks to compile the literature in a manner, which includes all the necessary points for better learning.

Key words: Communication, evidence-based practice, reading, technology, webinar

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INTRODUCTION

With the evolution of science and technology, an update in the field of medicine occurs every second, hence, the clinicians must upgrade themselves. It becomes next to impossible for an individual to maintain the pace of being up-to-date with the literature by casual reading alone. In addition, a plethora of unimportant and misleading information also gets included in the literature. To continue with the evolution, incorporating various platforms to have discussions regarding the same is of absolute necessity. The numerous options included as the educational activities in the postgraduate (PG) teaching programmes include Journal Club discussions, Seminars and Webinars.^[1]

A journal club, as defined by Mattingly, is a gathering of individuals that meet regularly to critically assess the advances in the scientific literature published in recent articles.^[2] For a long time, the journal club has been a part of the PG study curriculum suggesting new ways to improve their clinical skills. It has been proved to be a versatile programme for

its multidirectional and adaptable format to help the participants to develop cognitive skills. Journal clubs are usually organised around a definite subject in basic and or applied research. The presenter voices his/her insights relating to the aptness of the study design, the statistical analysis employed, and the appropriateness of the controls that were used.^[1]

Another widely used active teaching-learning method incorporated in the PG curriculum is the seminars. A seminar is a type of small group teaching in which students play an important role. It is an instructional technique, which involves generating a situation for a group to have guided interaction among themselves

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on a theme. This help students in the development of their cognitive abilities such as the application of concepts and principles while preparing them for future research and faculty lectures. Compared to didactic lectures, effective seminars increase student engagement, retention of knowledge, self-directed learning, communication skills, and peer discussion. On a regular basis, there are two types of seminars conducted in medical colleges, mini-seminars which are conducted at a classroom level and major seminars which are conducted at the departmental or institutional level.^[3,4] The coverage and scope of mini-seminars are small and simple. They are often reflected as group discussions. They improve the questioning skills of the students. A mini-seminar is necessary because it gives good experience to conduct a major seminar at institutional level.^[3,4]

Apart from the journal clubs and the seminars, which have been commonly used in the past, there is also a necessity to include webinars as a medium of mass communication education. The concept of webinars is not new; however, there was a surge of webinars in the field of medicine with the announcement of the global pandemic as the annual conference meets were unacceptable. They have become a popular medium of dissipating knowledge and have been included in the curriculum in elite universities.^[5]

With the rise in evidence-based practice through which practitioners judge the pieces of evidence and weigh their usability to bring a change in practice, it becomes indispensable to have journal club discussions, seminars and webinars at frequent levels to cultivate effective skills. Unfortunately, no standard guidelines are framed for their conduction by the governing body, which often confuses the students with their presentations. This article compiles history, steps and tips of presenting the same.

JOURNAL CLUB DISCUSSION

Evolution of journal club

“Journal Club” was the term given by Dr James Paget in the year 1835. It was so named as the doctors of the St. Bartholomew’s hospital, London, used to sit in a lounge and read the journals.^[1] However, the introduction of journal club discussion happened later in the year 1875 when Sir William Osler first organised it at the University of Montreal, Canada for a distinct entity of Cushing’s description with the purpose to subscribe and distribute periodicals.^[1]

Even so, Dr Erwin H. Ackerknecht, former Director of the Institute of the History of Medicine at Zurich, Switzerland had an opinion that Sir Osler heard about the ‘Journal Club’ from Germany. Dr Osler’s journal club presentation was considered a huge success and was highly admired. As per Dr Cushing, Sir Osler later reported the success of the discussion in Baltimore, USA. His notes revealed that the first journal club presentation at John Hopkins was held on 29th October 1889. Thereafter, the presentations were conducted weekly. In the years 1914-1947, every department in the institution had its journal club discussions. During the year 1926, Dr Scott Dudley Breckenridge was claimed to have started a journal club in Lexington, Kentucky, USA.

As mentioned above, Dr Ackerknecht was impressed by the idea of this discussion. He claims it was a routine. The students in Zurich, Switzerland were supplied with articles in different languages. At the same time, a journal club presentation had commenced in Beth Israel Medical Centre in New York which was led by Dr Sidney Leibowitz in the year 1935. By the 1980s, it became mandatory for every medical institute to conduct journal club discussions at regular intervals. The era also noted the transition from face-to-face to online interactions. In the later years, the journals were available online instead of in a hard copy.^[6] With the availability of the online platform, journal clubs have also begun on numerous social media apps such as Twitter. They are very beneficial for an individual who has completed his educational programme as they need not be associated with a medical institute for updates; nevertheless, the advancement from classrooms to laptops has been a boon for all medicos.

Goals of a journal club

Journal clubs have been an integral part of the medical education system since time unknown. They serve several purposes.

They help incorporate evidence-based clinical practice in day-to-day life, develop the skills of reading and analysing a situation critically, and increase exposure to rapidly evolving medical literature. They provide a unique opportunity to promote interest in research while learning from experts about knowledge gaps and future research questions.^[6]

The adult learning principles can best be exercised in a journal club. It promotes group studying and

contributes to developing a habit of continuously studying. It makes the task of studying easier.^[7] Journal clubs also act as a motivating tool. In a systematic review by Honey *et al.*, it was concluded that there was a change in clinicians' behaviour with the incorporation of journal clubs in their study programme.^[6] It was also seen that the overall prognosis of the patient and treatment also improved significantly. It helps to tone the residents' behaviour towards critically evaluating the decision-making. Furthermore, it also aids in their debating skills.^[7]

Steps to conduct journal clubs

Journal clubs can be held at departments for PG students and faculty, and at various scientific meets for practitioners. Virtual online journal clubs are organised for a large audience from multiple institutions. Journal clubs should be presented by the second or third-year students as students get oriented to research methodology in the first year of post-graduation.

Choosing the journal club articles

Reputed peer-reviewed indexed articles with high impact factors and rejection rates are generally chosen. Any paper which appropriately presents relevant concepts, stating clearly why the study was done, what problem was being addressed, how the problem is attempted to be solved, with clear conclusions would make a good article.^[8] Articles may be selected based on their clinical relevance and educational value. Original articles are suitable for improving critique skills, though metanalysis, case reports, review articles can also be great resources.

PGs must meet the chairperson of the journal club well in advance and take suggestions for the selection of the topic. It is better to select recent research papers, which are of importance and interest to the presenter and audience. Systematic reviews or theoretical articles should be avoided.

Analysis of the research paper

The abstract conveys the gist of the research and needs to be read assiduously.

First glance: The thoughts on first impression are to be noted down on a paper. Attention has to be paid to the tables and graphs as they convey more information. The article can then be re-read in detail later.

Second, detailed reading: One has to forage for details by asking specific questions in different sections of the

article to assess whether the aim of the study correlates with the methods, discussion and conclusions.^[9]

Introduction

While assessing the introduction part of the paper, one should check whether the authors have stated the scientific background, summarised the rationale for the study and mentioned a specific research question appropriate for the given type of study.^[10]

The introduction should define specific objectives, hypotheses, primary and secondary outcome measures.

Methodology

The study design, type of intervention, inclusion and exclusion criteria, method of randomisation, type of blinding, the internal and external validity of the study should be checked. One should also analyse whether the information is enough to replicate the study.^[11]

A search for bias, which can affect the results should also be made. Selection bias, information bias, any confounding variables and work-up or verification bias need to be looked for.

Ethical aspects, consent, timeline, detailed description of the analytic strategy, sample size calculation, statistical data analysis, *P* values and confidence intervals also deserve attention.

Results

Results should parallel the objectives and methodology. Introducing new findings which the study was not designed for, reflects poor methodology. One should verify all questions in the methodology getting answered, the flow of participants through each stage, protocols and outcomes, baseline comparability demographics and clinical characteristics. The tables should reflect the matter intended and should be well presented.

Discussion and conclusion

Discussion should evaluate the robustness of the study and be relevant to the topic.^[1] The author should enumerate the limitations of the study. It is important to assess whether authors rechecked and described any bias, confounding variables and the effects of a small sample size and measures taken to reduce their effects at the end of the discussion.

The conclusion should answer the research questions posed in the introduction.

References should be recent and relevant. Two or three cross-references are discussed to compare and contrast the research findings. One has to evaluate whether the article fits into the context of current literature.

Last review questions

One should recheck for the existence of any major flaws, like lack of scientific importance, originality, or validity. The strengths and weaknesses should be analysed. One should check the cost-effectiveness, clinical utility, generalisability across the population and whether the study changes the current practice in any way.

There are several steps for the actual presentation of the article in the journal club [Table 1].

Journal clubs have been linked to learning research and critique skills, promoting research awareness, professional empowerment, generating a positive research culture and evidence-based practice.^[12] There are some mistakes commonly made in conducting journal clubs [Table 2].

Table 1: Steps for presentation in the journal club

Conclusions should be reviewed by the moderator before the final presentation.
Editorial comments on the article should be checked.
The soft or hard copy of the article should be circulated one week prior.
The journal, title and authors are to be identified.
The background should be presented.
The presenter should interpret the article and explain rather than reading the entire article/PowerPoint presentation
Research questions, methods, results and conclusions should be summarised.
The critical review should be presented
Important points/key comments should be explained well and repeated at the end.
Two to three cross-references should be mentioned.
The presentation should be confident.

Table 2: Common mistakes made while preparing a journal club

Ignorance of available online resources.
Rapid review of the entire contents of several journals in a short time
Using very simplistic and fixed frameworks to analyse varied types of articles like original articles, meta-analysis, case series, etc.,
Restricting journal clubs to only original articles excluding case studies
Expecting students to have expertise with recent and advanced statistical tests
Making arrogant, superficial comments and judgments about the paper or review process.

SEMINARS

Planning of seminars

Selection of themes and topics

In contrast to lectures, topics are less formally structured with more focus on extensive discussion. As seminars are recurring, in many of the institutions, topics for the seminars are prepared well in advance to facilitate in-depth study. Usually, topics from a cognitive domain that are not discussed or included in bedside clinics, case presentations, and journal clubs are selected for seminars. A seminar time-table with the names of the student and the moderator faculty should be prepared at the beginning of every academic year.

Allotting the topics and assigning PGs and moderators

Postgraduates are expected to prepare the presentations in PowerPoint or equivalent media under the guidance of the assigned moderator. Moderators will supervise, and ensure that resource material is available.

Timing of seminars

Ideally, a seminar lasts for one to two hours, depending on the number of presenters, the topic or theme chosen and it is recommended that these be held at least once a week. Further, every candidate must present at least four times a year and a total of twelve seminar presentations during their post-graduation period.^[13]

How to make seminars work?

There are three phases involved in conducting a seminar.

Activities involved in the preliminary stages (Pre seminar phase)

These include the selection of the seminar theme and topic, finalisation of venue, date and time well in advance, preparation of a circular regarding the seminar and information without ambiguity about the content, and preparation of presentation material. The use of appropriate audio-visual aids is an important step in seminars. It reinforces lecture material and brings about understanding where words fail. Black lettering on a white background or white lettering on a blue background makes the slides effective. One idea per slide, one minute per slide, no more than six bullets per slide and no more than six words per bullet are effective forms of presentation.^[14] Using only essential words rather than full sentences will reduce the number of lines without any loss of valuable

information. Wherever possible, pictures, graphs, tables, diagrams or videos may be used to effectively convey the message.

Activities involved during the seminar (Seminar phase)

The presenter should make sure that the lighting, computers with audio-visual accessories, interactive smartboards, screen pointers and simple writing board are checked in advance. The seminar commences with the briefing by the moderator faculty. The speaker should speak clearly and address the audience. Notes may be used by the presenter to assist if necessary, but he/she should not read the talk. All the trainees are expected to come prepared and actively participate in the discussion and enter relevant details in their logbooks. At the end of the presentation, the moderator will ask questions and initiate the discussion and end the session with debriefing. Debriefing is essential because it maximises the learning, which includes summarising, and clarifying what has been learnt in that seminar.

Activities after the seminar (Post seminar phase)

These include evaluation of the seminar conducted, and providing feedback to the students.^[3,15] Seminars should be evaluated by the moderator faculty using a checklist, which may carry weightage for internal assessment. There are parameters on which a seminar can be assessed, on a 5-point Likert scale [Table 3].^[13]

Providing feedback to students helps to close the gap between their current and desired performance, and has the greatest impact on learning. Feedback promotes

learning by informing the student of their progress and the specific areas requiring improvement, in turn motivating the student to engage in relevant activities to further their learning.^[3] The feedback model proposed by Pendleton *et al.*^[16] may be very useful in this regard [Figure 1].

The modified seminars (seminars in combination with role play, pre and post-test, quiz, and group discussion) have shown to be beneficial in developing the art of functioning as a team with peer coordination and trying innovation in learning.^[17] Seminars are ideal methods for intensive in-depth learning of the subject. When the subject area is relevant to the theme and active resource persons are available, a seminar can be a very effective teaching-learning method.

WEBINARS

Over the past one-two years, tons of webinars and virtual symposia have been fashioned, hosted and endorsed. Against the backdrop of the pandemic, webinars have become popular alternatives amongst PGs to regular departmental seminars, although the attendance rate is variable.^[18]

What is the aim of a webinar?

A webinar is a term combined from “Web” and “Seminar”. Considering the busy schedules of our PGs as well as practising anaesthesiologists, the Indian Society of Anaesthesiologists (ISA) has been organising webinars almost every month in the past two years in sync with global trends and expecting complicity of its members.^[19] Presently, with the trend of webinars on the rise, and their videos at one’s fingertips online, it is easier, not only for PGs but also for private practising anaesthesiologists^[20] to view them as per availability of time, facilitating academic pursuits. These videos also offer the convenience of pausing, rewinding and viewing multiple times. The demand for webinars is booming!

What are the steps to a successful webinar?

Determining the topic first up

One should overcome the desire to put together the most extensive webinar comprehensible, regarding a popular theme. Ideally, one can zero down to an

Table 3: Parameters for evaluating the seminar

Parameter	Score (1 to 4)
Whether other relevant publications consulted	
Whether cross-references consulted	
Completeness of Preparation	
Clarity of Presentation	
Understanding of subject	
Ability to answer questions	
Time scheduling	
Appropriate use of Audio-Visual aids	
Overall Performance	

* (Poor -0, Below average -1, Average -2, Good -3, Very good -4)



Figure 1: Feedback model for Seminar

extremely pinpoint theme that can be dealt with appropriately. This ensures better focus on the theme and lessens the possibility of the webinar meandering pointlessly.^[21]

Creating a presenter

One can create at least one depiction of the presenter for any live webinars one plans to oversee. Most webinar software will have a page for adding presenters where one could fill out their basic data.^[22]

Planning out the constituents of the webinar

When one knows the topic and occasion of the online convention, it should not be hard to create a sketch of how it should be conducted. One could take into account the time frame one is ordinarily going to work with. The theme one comes up with, for the whole of the duration of the webinar, should be captivating enough to keep the participants until the end. One should always make sure to save some time in the end for question and answers.^[23]

Selecting a webinar ware

Zoom of course probably has a larger user base, however, many other wares, including GoToWebinar, BigMarker, Adobe Connect, WebEx, ClickMeeting, Clirnet, Medflix and more are being used over the past two years.^[24] Clirnet and Medflix are especially significant in this regard since they are exclusive medical platforms.

Sorting out the space and tools while recording presentation for a webinar

It is best to record the webinar presentation in a quiet room, free from outdoor noises and inconveniences. While one does not need to invest in a lot of gear, one should make sure to have access to the inbuilt computer camera, and an external unit for the microphone.^[25] Pre-recording a presentation may allow one to edit out blunders, re-make portions that did not quite work, add effects, graphics and more, in post-production, and possibly feel less “dread of the stage”. However, this comes at the cost of lack of involvement of patrons, and less emotional response. For pre-recorded presentations, the speaker must be around to take any questions that may be posed during the session.

Deciding the time and date of the webinar

To decide the appropriate date and time of the webinar, one would want to study the geographical location of the patrons. One can utilise Google Analytics to

determine where the target participants might be located, so that the choice of an agreeable time zone and date may be made.

Campaign tracking

Webinars are a marvellous knowledge spawning tool, but require that one plans well, and determines campaign tracking restrictions beforehand. In its most broad-ranging elucidation, campaign tracking is the technique of pinning down how visitors are led online to the website. Campaign tracking is used in Google Analytics to unambiguously track online browsers perceived as having an interest in the theme of the webinar, to the website, from campaigns produced by Google Ads, and also from other ad agencies. Some customisations of campaign tracking allow one to set whether future advertising referrals revoke previous referrals to the website, and these may be either in-built or paid.

Using a landline phone for internet

It is prescribed bearing in mind the use of wired broadband connection for internet connectivity. Any internet connection is liable to last-minute failure, and if it fails, the VoIP connection would be interrupted. It is always wise to have, as a preventive step, the option of connecting to the webinar through a landline.^[23]

Going online with the webinar

When live streaming begins, one needs to make sure that the setting is such that one would not be discontinued, and no external noises are going to hold back the communication. A good way to do this is to inform people at one's home or office not to bother for a given period. One needs to be mindful of the background. This might involve shifting items around or covering them up to get a more appropriate ambience. But if this is not an option, one could use a green screen and have a virtual background. To pull off the best virtual background effect, one could use a high-contrast, solid-colour backdrop, ideally a green screen. Whatever one uses, one should go for a matt, non-reflective background. Further, webcams automatically record and adjust to the most dazzling source of light, and if that light is behind the speaker, he is no longer the focus. Therefore, one should avoid being backlit by making sure, one is facing toward, not away from, a window or another light source. While natural light works great, a bright, soft white light from the front, should work just as well. And finally, whether one is using a USB webcam or the built-in webcam on the laptop, one has to make sure that the

camera lens sits at or above eye level, no higher than the hairline.

Follow up

One should prepare a questionnaire for audience assessment. This could be used in the future to polish up further webinar ventures. One should come up with auxiliary information support for the audience to keep up the practice of helping, and guiding them.^[25]

SUMMARY

Seminars, webinars and journal clubs are great forums for the discussion of medical topics and ideas. They connect colleagues from all across the globe and allow global participation. They facilitate connections and help recognise voices. With the advancement in technology, the assurance of lifelong teaching as well as learning in formats, both within and outside academic walls is finally being fulfilled.

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