

Journal club

A journal **club** is an **educational meeting** where a group of individuals, often students, **residents**, or professionals, gather to discuss and critique scholarly **articles**, usually from scientific or medical **journals**. The primary purpose of a journal club is to promote the critical appraisal of **literature**, foster a deeper understanding of research methodologies, and encourage evidence-based practice.

Key Features of a Journal Club

Educational Environment: It provides an opportunity for participants to learn about the latest research, practice critical thinking, and stay updated on new developments in their field.

Critical Appraisal Skills: Members develop the ability to assess the **validity**, **significance**, and **applicability** of research findings.

Collaboration and Discussion: It fosters an interactive environment where participants can exchange ideas, ask **questions**, and share insights.

Application to Practice: For healthcare and medical professionals, journal clubs help integrate research findings into clinical practice by discussing how they can be applied to **patient care**.

Journal clubs can be informal gatherings among **peers** or structured as part of a training program or educational course. They are used in various academic and professional settings, including universities, **hospitals**, and research institutions, to enhance learning and professional development.

Undergraduate medical students often lack **hands-on** research **experience** and fundamental scientific research **skills**, limiting their exposure to the practical aspects of scientific **investigation**. The Cerrahpasa Neuroscience Society introduced a program to address this deficiency and facilitate student-led research.

The primary goal of this initiative was to enhance medical students' research output by enabling them to generate and publish peer-reviewed papers within the **framework** of this pilot project. The project aimed to provide an accessible, global model for research training through structured journal **clubs**, **mentorship** from experienced peers, and resource access.

In January 2022, a total of 30 volunteer students from various Turkish medical schools participated in this course-based undergraduate research experience program. Students self-organized into 2 groups according to their preferred study type: original research or **systematic review**. Two final-year students with prior research experience led the project, developing training modules using selected materials. The **project** was implemented entirely online, with participants completing training modules before using their newly acquired theoretical knowledge to perform assigned tasks.

Based on student **feedback**, the project **timeline** was adjusted to allow for greater flexibility in meeting deadlines. Despite these adjustments, participants completed their **tasks**, applying the theoretical **knowledge** they had gained to their respective assignments. As of April 2024, the initiative has culminated in 3 published **papers** and 3 more under peer review. The project has also seen an

increase in student interest in further involvement and self-paced learning.

This initiative leverages globally accessible resources for research [training](#), effectively fostering research competency among participants. It has successfully demonstrated the potential for undergraduates to contribute to medical research output and paved the way for a self-sustaining, student-led research program. Despite some logistical challenges, the project provided valuable insights for future implementations, showcasing the potential for students to engage in meaningful, publishable research ¹⁾

Format

Structured [Format](#): Meetings typically have a set format, where one or more [articles](#) are selected in advance, and a participant leads the [discussion](#) or presents a [summary](#) and critique of the article

The format of a journal club can vary depending on the goals, audience, and setting, but it typically follows a structured approach to ensure productive discussion and critical analysis. Below is a common format for running a journal club:

1. Selection of the Article: Choose a [Relevant Article](#): Select an article that is current, impactful, and relevant to the interests or specialty of the group.

Distribute the Article in Advance: Share the article with participants at least a week before the meeting so they have time to read and prepare.

2. Introduction: Purpose of the Meeting: Begin by stating the journal club's objective (e.g., understanding new research, discussing methodology, etc.). Background on the Topic: Provide a brief overview of the topic that the article addresses to set the context.

3. Article Presentation: Summary of the Article: One participant, usually pre-assigned, presents a summary of the article, including: Title, authors, and journal. [Research question](#) and [objectives](#). [Study design](#) and [methodology](#).

Key findings and results. Highlight Key Points: The presenter should emphasize significant data, graphs, or tables and explain them.

4. Critical Appraisal: Assess Study Strengths and Weaknesses: Evaluate the quality of the study design, sample size, methods, and analysis. Bias and Limitations: Discuss any potential biases, confounding factors, or limitations noted in the study or observed by the participants. Relevance and Applicability: Analyze the relevance of the findings to clinical practice or other applicable fields. Statistical Analysis: Review the appropriateness and interpretation of any statistical tests used.

5. Discussion and Interaction: Open Discussion: Encourage participants to share their thoughts, questions, and critiques. Facilitator's Role: The facilitator should guide the discussion to ensure it remains focused and productive. Comparison with Other Literature: Relate findings to previous studies or existing literature for a broader perspective.

6. Conclusion and Takeaways: Summarize Key Points: The presenter or facilitator should briefly summarize the main takeaways from the discussion. Application to Practice: Discuss how the findings can be implemented in clinical or professional practice, if applicable. Future Directions: Suggest potential follow-up research or implications for further study.

7. Feedback and Next Steps: Feedback: Gather feedback from participants on the format and the value of the discussion. Plan the Next Meeting: Announce details for the next journal club meeting, such as the date and the article or topic to be discussed. Optional Components: Pre-Meeting [Questionnaire](#): Some journal clubs use pre-meeting surveys to identify specific questions participants have about the article.

[Expert Commentary](#): Occasionally, an expert in the field may be invited to provide additional insights or context.

Handouts and Visuals: The presenter may prepare slides or handouts to facilitate discussion and illustrate important data points.

This format helps ensure that journal club meetings are structured, engaging, and educational for all participants.

Zagury-Orly I, Campos-Zamora M, Cadieux M, Dzara K. Effectively Planning a Journal Club in Academic Medicine. *Acad Med.* 2022 Sep 1;97(9):1425. doi: 10.1097/ACM.0000000000004689. Epub 2022 Apr 12. PMID: 36098783.

Prompts

Here are some prompts to guide discussions during a journal club meeting and facilitate critical appraisal of research articles:

General Discussion Prompts: Introduction and Background:

What is the main research question or hypothesis of the article? Why is this topic important to the field, and how does it build on previous research? Study Design and Methodology:

What type of study design was used (e.g., randomized controlled trial, cohort study, systematic review)? Was the methodology appropriate to address the research question? Why or why not? What are the strengths and weaknesses of the study design? Were the inclusion and exclusion criteria for

participants clearly defined and justified? Data Collection and Analysis:

What methods were used to collect data, and were they reliable and valid? How was the data analyzed, and were the statistical tests appropriate for the type of data? Was there any mention of handling missing data or bias during analysis? Results and Findings:

What were the main results, and were they statistically and/or clinically significant? Were the results clearly presented and easy to interpret? Did the authors address potential limitations in their findings? Discussion and Interpretation:

How do the authors interpret their results, and do you agree with their conclusions? Were the study's limitations and potential biases discussed adequately? How do the findings compare to other research in the field? Applicability and Implications:

How relevant are the study findings to current practice or further research? What recommendations for clinical practice, policy, or further study do the authors make? What are the potential implications for future research or practice in this area? Critical Appraisal:

What were the key strengths of the study, and how did they contribute to the reliability of the findings? What were the most significant weaknesses, and how could they have impacted the results? How would you improve the study if you were to replicate it? Specific and Engaging Prompts: Ethical Considerations:

Were there ethical concerns addressed in the study, such as informed consent and participant confidentiality? How might ethical considerations have influenced the design and execution of the study? Visual Data Analysis:

How effectively do the tables and figures communicate the findings of the study? Is there any data that could have been presented more clearly or differently for better understanding? Application Scenario:

If you were to implement the findings of this study in your practice or field, what challenges would you anticipate? Can you think of a specific case or situation where the results would be particularly relevant? Participant Perspective:

What feedback would you expect from participants who took part in this study? What insights could participant perspectives add to the study's conclusions? Future Research Directions:

What follow-up studies would you propose to build on the findings of this article? How could these future studies address the limitations found in this study?

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Karabacak M, Ozcan Z, Ozkara BB, Furkan ZS, Bisdas S. A [Pilot Project](#) to Promote Research [Competency](#) in Medical Students Through [Journal Clubs](#): Mixed Methods Study. JMIR Med Educ. 2024 Oct 31;10:e51173. doi: 10.2196/51173. PMID: 39481123.

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