



Satisfaction and Knowledge of Emergency Residents about Journal Club

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Background: The key teaching-learning activity journal club provides a platform for developing critical evaluation skills. It makes it easier to stay current with new research, enabling residents to improve patient care, and assisting them in developing into knowledgeable specialists.

Methods: A cross-sectional survey was conducted in March 2023 among emergency department residents at King Saud Medical City (KSMC), King Salman Hospital, Aliman General Hospital, and Imam Abdulrahman Alfaisal Hospital. This study was conducted to find out how individuals felt about having journal club as part of the curriculum. 124 emergency registrars participated in a survey. The goal of the study was explained, and instructions for filling out the survey forms were given. In order to analyze the data, SPSS version 24 was used. The study variables were represented by descriptive statistics (the frequency with percentages for categorical variables), and the chi-square test was employed to determine statistical significance.

Results: A total of 124 (N = 124) emergency residents responded to the survey. 45 (36.2%) residents from R1 and 33 (26.6%) from R2. 71% of participants were male and 29% were female. Journal clubs are not well known to the majority of R1 locals (48.7%). However, a significant portion of R4 residents (29.27%) are familiar with journal clubs. The majority of residents (39%), first learned about journal club from friends, followed by the internet (35%), journal club attendance (9%), and literature (16% of residents), in that order. The main justification offered for not incorporating a journal club into the curriculum is that it takes a lot of time to prepare.

Conclusion: A journal club would increase residents' capacity for lifelong learning. It is a useful educational tool to help them comprehend the processes involved in conducting research that would enhance patient care.

Keywords: Journal club; student; medicine; teaching.

1. INTRODUCTION

Journal club (JC) is a regular event where members of a group assemble to discuss and offer comments on a research article that has been given by one of the members. Journal clubs are a fantastic method to learn about and put evidence-based medicine into practice. Evidence-based medicine has become vital in closing the knowledge gap between conception and application [1]. Therefore, journal clubs are advised as an excellent teaching-learning strategy that fosters the knowledge, values, and abilities required for EBM.

Because they primarily focus on recent research papers, journal clubs are a great way to encourage residents to develop their critical thinking abilities, evaluate experimental data, and become acquainted with contemporary and cutting-edge research procedures and concepts. The resident's competencies and knowledge are improved through reading primary literature and encouraging lifelong learning. Journal clubs increase residents' understanding of science, excitement for it, and self-assurance, according to a study conducted in a Research science university in the United States [2]. It has been proven that include research material in class activities is an effective way to promote critical

thinking in a range of scientific disciplines [3]. Participating in a journal club with an active learning focus reportedly improved performance and research paper presentations [4].

It's challenging to create and manage effective journal clubs for residents. The use of complex language in research articles raises the concern that residents would have problems comprehending and implementing knowledge obtained outside of textbooks. Many residents believe that the intimidating nature of the presentation process is one of the reasons journal clubs have failed [5].

As a result, it's crucial to steer clear of common errors when organizing journal clubs for residents. It is crucial to make an attempt to offer fresh journal clubs that will engage residents, advance their grasp of the fundamentals, and hone their analytical thinking. Our study aims to ascertain whether the concept of journal clubs is known locally and to determine whether residents are interested in incorporating them into their studies.

2. METHODS

In March 2023, emergency department residents at King Saud Medical City (KSMC), King Salman

Hospital, Aliman General Hospital, and Imam Abdulrahman Alfaisal Hospital participated in a cross-sectional survey. This research was done to learn how people felt about the inclusion of journal club in the curriculum. There was convenience sampling. Invitations and consent papers for the survey were emailed to each resident's group email address. All residents who granted their approval to participate were required for inclusion.

A poll of 124 emergency registrars was taken. The study's objective was described, and guidelines for completing the survey forms were provided. Google Forms was used to distribute an 8-item questionnaire to residents' emails. Residents were given enough time to respond to all inquiries.

Following various research studies, a survey-based questionnaire was created. This survey was designed to learn more about emergency residents' knowledge, attitudes, and impressions regarding the inclusion of a journal club in the curriculum. We made an effort to find questions that applied to the pre-selected domains. Three of the questions focused on attitudes regarding the adoption of journal clubs, while the other five asked about knowledge and views about journal clubs. The questionnaire was evaluated for face validity and content by four university topic experts for relevance, clarity, grammar/spelling, ambiguity, and sentence structure. They got a cover letter outlining the goals of the study, the selection criteria for the content expert, the questionnaire, and the evaluation procedure for the study's content. The experts assigned the following ratings to each query: Strongly agreeing (five), agreeing (four), neutral (three), disagreeing (two), and strongly disagreeing (one).

Cronbach's alpha= 0.782, a measure of dependability, was calculated. The research and ethics committee examined and approved the questionnaire. The data were examined using SPSS version 24. The chi-square test was used to assess statistical significance, and the study variables were represented by descriptive statistics (the frequency with percentages for categorical variables).

3. RESULTS

The survey was completed by 124 (N = 124) emergency residents in total. There were a total of 45 (36.2%) residents from R1 and 33 (26.6%) from R2 Table 1. 29% of the population was female and 71% were men Table 1.

The majority of R1 residents' awareness about journal clubs is inadequate (48.7%). However, many R4 residents (29.27%) are knowledgeable about journal clubs. According to Table 2, there was a statistically significant difference in the knowledge of journal clubs between R1, R2, R3, and R4 (significance: P value less than 0.05) Table 2.

In terms of where residents first discovered about journal club, the majority (39% of residents) did so from friends or elders, followed by the internet (35%), journal club attendance (9%), and literature (16% of residents). Multiple options were available to residents. Eighty-three percent (n=103) of residents who were asked whether they thought the journal club helped them gain knowledge and skills said "yes" in the overall survey. The fact which demonstrates that it undoubtedly enhances clinical and medical understanding. As opposed to 16.9% (n = 21) who disagreed Table 3. Journal club's contribution to updating knowledge of current medical literature is a crucial component. Residents from all rotation levels tended to agree in the majority Table 4.

In response to the issue of whether journal clubs significantly influence the motivation of research activities, 48% of residents overall answered "yes," 11% selected "no," and 37% indicated they were unsure. A whopping 49% of locals said they would like to include journal clubs in their curriculum. According to 29% of them, it wouldn't make a difference. 22% of those surveyed opposed having it on the curriculum.

The option picked most frequently (30%) out of the five justifications for journal clubs being included in the curriculum was to provide a chance to learn from seniors. Furthermore, 24% raise their awareness of the latest updates in the field of study. The next largest percentage was 19% for the choice to instill more assurance when interacting with patients. Then 18% for promoting a deeper comprehension of the topic Fig. 1.

The five reasons given for not including a journal club in the curriculum yielded the following results, listed in descending order: 93 residents thought journal club preparation took a lot of time. 15% have stage fear. 5% of participants have trouble understanding statistics. 3% said that journal club would not be very helpful. Residents were urged to make several selections Fig. 2.

Table 1. Residents distribution

Total residents	N	%
R1	45	36.29032258
R2	33	26.61290323
R3	25	20.16129032
R4	21	16.93548387

Table 2. Knowledge about journal club

	Good knowledge	Moderate knowledge	Poor knowledge	Good knowledge %	Moderate knowledge %	Good knowledge %	P value
R1	10	16	19	24.39	36.4	48.72	0.001
R2	8	14	11	19.51	31.8	28.21	
R3	11	9	5	26.83	20.5	12.82	
R4	12	5	4	29.27	11.4	10.26	

Table 3. Journal clubs' role in enhancing clinical expertise and medical knowledge

	Yes	No
R1	39	6
R2	24	9
R3	21	4
R4	19	2

Table 4. Journal clubs' role in enhancing knowledge of recent medical material

	Yes	No	% yes	% no
R1	38	7	38.38	28
R2	23	10	23.23	40
R3	20	5	20.20	20
R4	18	3	18.18	12

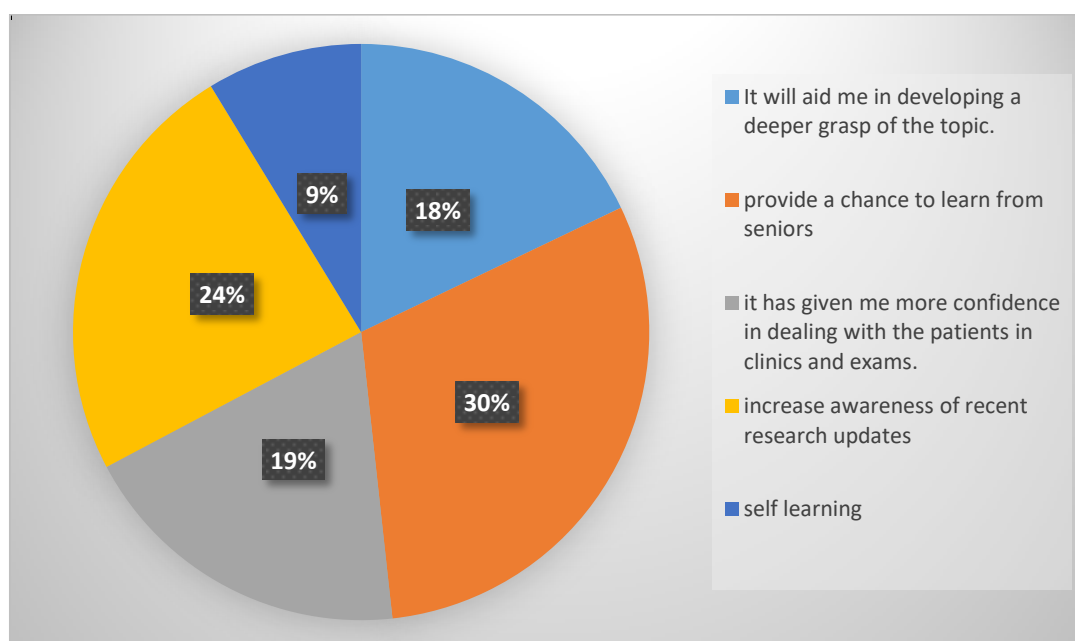


Fig. 1. Why resident's curricula should include journal clubs

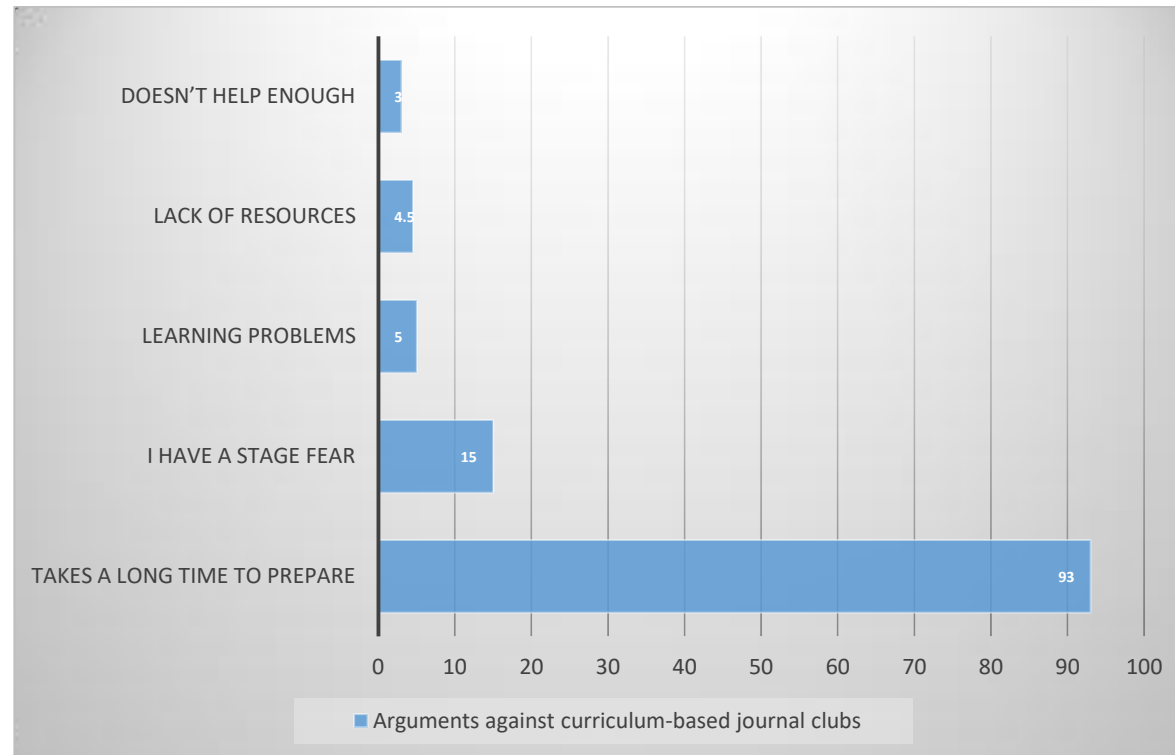


Fig. 2. Arguments against curriculum-based journal clubs

4. DISCUSSION

In order to keep up with modern educational trends in the field of medical education, teachers must adhere to a specified curriculum. Innovative teaching methods including, integrated teaching, and evidence-based learning are being studied and implemented to improve understanding of various disciplines.

Journal clubs can also be utilized to improve the knowledge, principles, and skills necessary to provide evidence-based healthcare. Journal clubs are frequently employed to accomplish a variety of objectives in a variety of contexts. Journal clubs for health professionals, for instance, can be utilized to advance clinical practice, integrate research into clinical decision-making, or hone clinical question formulation, discussion, and evaluation abilities [6].

Journal clubs are essential for staying up to date on the most recent research being conducted worldwide. Critically analyzing research studies improves evidence-based medical skills and helps with self-evaluation. Journal club is still one of the most important aspects of the postgraduate curriculum. Most residents learned about it online, via seniors, or through friends.

Routine didactic lectures, seminars, and formal evaluations are insufficient in modern medicine. Information acquisition, clinical skills, and evidence-based practice all require competence [7]. By keeping up with medical knowledge, journal clubs can build a desire for study in addition to improving knowledge and reading habits. Discussions of research articles will benefit participants by educating them with more in-depth knowledge [8]. A previous study found that participation in a journal club focused on active learning improved ability in research paper presentations (scientific communication) [4].

Most of our residents said that the journal club improves clinical abilities, keeps people informed about recent medical literature, and increases medical knowledge. Similar results were discovered in a study of nursing students, in which the vast majority (75%) of participants stated that their ability to locate, evaluate, and express scientific knowledge had improved [7].

Aside from actually conducting research, reading original sources is the best way to learn how research is conducted and presented [9]. Residents must be comfortable reading such

specialist writing in order to actively participate in the journal club. In our study, more than a third of residents thought that while journal club would help them stay current on their knowledge, it would be more helpful in the future than it would be today.

Journal clubs, according to more than half of the residents, would inspire them to continue their studies. Many of the residents either didn't have an opinion or disagreed because they weren't familiar with journal clubs. In a Sandefer intervention trial with residents, every participant was so driven to succeed that they were considering impending research-based graduation programs [10].

Journal clubs offer a variety of advantages as a form of research-based learning. They provide a more thorough understanding of the topic, offer the possibility to learn biostatistics, and increase awareness of recent advancements in the scientific community. A 2001 systematic study found that journal clubs can improve residents' and registrars' reading habits, awareness of clinical epidemiology and biostatistics, and utilization of medical literature [2].

Mark et al. provided various ten-step recommendations in their journal club program for medical residents at the New York University School of Medicine to help presenters assess the validity and dependability of studies. As a result, residents now have improved presenting and critical thinking skills, which helps them when they present patient cases in clinics and during exams [11]. The majority of our residents expressed the desire that journal clubs be included in their curriculum for the same reason.

To encourage residents to seek independent learning is the aim of adult learning theory. Various literary genres have produced studies that focus on instructing self-directed learning [12,13]. Through self-learning, residents assume personal responsibility for their education. More importantly, it gives them a set of skills they can use in their practice after residency, enhancing their independence and self-assurance.

Programs must choose specific models to practice these skills on if they expect residents to be competent and successful in using them after their training is complete. According to Zoshua et al., a journal club model developed for residents allowed them to apply the knowledge they learned from journal club to the care of their

patients. It also increased their sense of autonomy as doctors and their confidence in their capacity to evaluate the medical literature [14]. About 9% of the residents who participated in our study said that journal clubs would promote self-directed learning.

The most significant articles must be presented for a journal club to be successful because they are not a required part of the curriculum. The themes used for the curriculum should benefit and interest the students. With the aid of encouraging mentoring and direction from a dedicated faculty member who also ensures the maintenance of the framework and systematic presentation, residents will be able to be imaginative and original in their presentations [15].

93% of our residents believed that planning requires a significant amount of time. Some locals assert that they suffer from stage fright, while others think they don't understand the data well enough to be able to present a report.

Many residents thought that hosting journal club would be a difficult process for a number of reasons, including the fact that they are already overburdened with numerous subject lectures, evaluations, and assignments.

In summary, some of the residents in our study learned about journal clubs from acquaintances, the internet, and books. Most residents are interested in journal clubs because they think it will help them become more confident in their abilities to present cases, especially during their OSCE exams. Because they take a lot of time, journal clubs might not be something that all residents are interested in.

It may be possible to make sure that journal clubs do not interfere with routine activities and that the themes selected are from the curriculum in order to prevent pushing residents to spend time on unimportant topics. Journal clubs shouldn't be a "fall-flat" session, but rather a lively discussion that encourages residents to acquire for lifelong skills that will be used throughout their professions and to apply research.

5. CONCLUSION

A journal club can be added to resident's course schedule to help residents improve their analytical abilities, bio statistical knowledge, and

motivation for future research. The majority of our residents responded favorably when journal clubs were introduced. Therefore, it's crucial to motivate them and demonstrate to them how journal club is a teaching-learning methodology that can greatly improve their presentation skills. Journal clubs can help residents become exceptional researchers, presenters, and investigators when they are introduced at the undergraduate level.

The most frequent concern with regard to the introduction of journal clubs is the time factor. Residents' perception that it requires a lot of time may have an impact on how well they perform in crucial topics. Journal clubs for residents should be carefully linked with the curriculum and set up in a way that does not conflict with their regular responsibilities in order to provide more depth and learning.

CONSENT

As per international standard or university standard, Participants' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Lee AG, Boldt HC, Golnik KC, Arnold AC, Oetting TA, Beaver HA, et al. Structured journal club as a tool to teach and assess resident competence in practice-based learning and improvement. *Ophthalmology*. 2006;113(3):497-500. DOI: 10.1016/j.ophtha.2005.12.0.
2. Sandefur CI, Gordy C. Undergraduate journal club as an intervention to improve student development in applying the scientific process. *J Coll Sci Teach*. 2016;45(4):52-8.
3. Breakwell DP. Using the primary literature in an allied health microbiology course. *Microbiol Educ*. 2003;4:30-8.
4. Robertson K. A journal club workshop that teaches undergraduates a systematic

- method for reading, interpreting, and presenting primary literature. J Coll Sci Teach. 2012;41(6):25-31.
5. Al Achkar M. Redesigning journal club in residency. Adv Med Educ Pract. 2016;7: 317-20.
DOI: 10.2147/amep.s107807
 6. Kleinpell RM. Rediscovering the value of the journal club. Am J Crit Care. 2002;11(5):412-4.
 7. Steenbeek A, Edgecombe N, Durling J, LeBlanc A, Anderson R, Bainbridge R. Using an interactive journal club to enhance nursing research knowledge acquisition, appraisal, and application. Int J Nurs Educ Scholarsh. 2009;6:Article12.
DOI: 10.2202/1548-923x
 8. Laaksonen C, Paltta H, von Schantz M, Ylönen M, Soini T. Journal club as a method for nurses and nursing students' collaborative learning: a descriptive study. Health Sci J. 2013;7(3):285-92.
 9. Minerick AR. Journal club: a forum to encourage graduate and undergraduate research students to critically review the literature. Chem Eng Educ. 2011;45(1):73-82.
 10. McDonough V. Improving journal club: Increasing student discussion and understanding of primary literature in molecular biology through the use of dialectical notes. Biochem Mol Biol Educ. 2012;40(5):330-2.
DOI: 10.1002/bmb.20640
 11. Ebbert JO, Montori VM, Schultz HJ. The journal club in postgraduate medical education: a systematic review. Med Teach. 2001;23(5):455-61.
DOI: 10.1080/01421590120075670
 12. Schwartz MD, Dowell D, Aperi J, Kalet AL. Improving journal club presentations, or, I can present that paper in under 10 minutes. Evid Based Med. 2007;12(3): 66-8.
DOI: 10.1136/ebm.12.3.66-a
 13. Green ML, Ellis PJ. Impact of an evidence-based medicine curriculum based on adult learning theory. J Gen Intern Med. 1997; 12(12):742-50.
DOI: 10.1046/j.1525-1497.1997.07159.x
 14. Hartzell JD. Adult learning theory in medical education. Am J Med. 2007; 120(11):e11.
DOI: 10.1016/j.amjmed.2006.10.024
 15. Elizondo-Omaña RE, Zarate-Garza PP, Jacobo-Baca G, Salinas-Alvarez Y, Fernandez-Rodarte BA, Martinez-Garza JH, et al. Collaborative mentoring for effective medical research groups. Med EdPublish. 2019;8(3):1-13.
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