



# Strategies for Holding Successful Journal Clubs: A Case Study

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## Abstract

**Background:** Journal club is a well-known method for reviewing new scientific articles and information in different fields of medical sciences. This study aimed to explore the strategies for holding successful journal clubs at the Faculty of Health Management and Medical Informatics of Kerman University of Medical Sciences, Kerman, Iran.

**Methods:** This qualitative content analysis study was done by interviewing nine academics and postgraduate students at the Faculty of Management and Medical Informatics. One interview was conducted with each participant. All interviews were recorded and transcribed, and notes were taken during interviews. Data collection continued until data saturation was reached.

**Results:** Based on the results, the most important strategies for successful journal clubs were holding journal clubs at an appropriate time, having someone in charge of organizing the facilities and content, and letting everyone participate in the discussion. Moreover, article appraisal should be taught to participants beforehand.

**Conclusions** Although journal clubs are routinely and correctly held in many great universities around the world, this task is still not performed adequately and effectively in many educational centers in Iran. More effort should be put into holding organized and appropriate journal clubs.

**Keywords:** Journal club, Postgraduate students, Kerman, Iran

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## Introduction

Journal clubs are a well-established component of medical education systems, and have been around for the past several decades (1). They are an active form of learning outside of the laboratory (2), and to date, remain a valuable part of teaching schedules (3). Journal club can be defined as a group of individuals who meet regularly to discuss the latest published articles in the field of medicine (4,5). There are different journal club formats, that can be used to teach new basic sciences (6).

The journal club has undergone changes over time. In the past, it was aimed at updating the knowledge of participants, and now it is done mainly to discuss study methodologies (7), teach critical assessment skills (7-10), support evidence-based medicine in clinical practice, promote knowledge of epidemiology and biostatistics (7,8), and improve studying habits (8), while adopting an active learning procedure (11). These old and new approaches to journal clubs are named traditional and evidence-based journal clubs, respectively.

Studies confirm that evidence-based journal clubs are more effective than traditional ones, and their aims have changed from earlier times (12). In a study done among the anesthesiology residents of Shiraz University of Medical Sciences, Iran, biostatistics terms and concepts were taught and scientific subjects and article reviews were presented in the journal clubs. The results showed that the new approaches could improve journal clubs by increasing interdisciplinary communication and understanding and applying evidence-based medicine and clinical competence. Moreover, new approaches can eliminate the problems of traditional journal clubs, (13) such as poorly selected articles (14) and not improving critical thinking. New evidence-based medicine journal clubs consider patient-related problems, involve a group of experts, faculty members, and academics (14), teach critical thinking (15), research methodology, biostatistics, and epidemiology (16), and evaluate old and new therapies in the field of medicine (17).

The results of another study done at the Neurology



Department of Tabriz University of Medical Sciences showed that there was a significant improvement in the critical appraisal skills of the participants, after holding evidence-based journal clubs (7). Likewise, a study involving surgical residents in Nigeria reported that journal clubs, as a useful educational resource, have an important effect on improving critical appraisal skills and the ability of reviewing literature (18). Similarly, another study conducted in physiotherapy departments in England and Australia showed that evidence-based medicine journal clubs and provision of facilities for journal preparation were both important within physiotherapy departments (19). Nevertheless, it should be noted that in addition to the proper functioning of journal clubs according to the standards, necessary interventions are required to reach ideal conditions (20).

Considering the importance of evidence-based education in medical departments, and the importance of a regular program for holding journal clubs (21), it can be stated that journal clubs can contribute to medical students' understanding of evidence-based concepts and the application of the results of studies (22). In other words, evidence-based journal clubs can function as a bridge between results of research and clinical applications in practice (23). Other benefits of library journal clubs reported in other studies include raising current awareness, improving analysis skills, group unity, and intra-library knowledge, and providing a low-cost professional development opportunity in times of budget difficulties (24).

A journal club has been routinely held at the Faculty of Health Management and Medical Informatics of Kerman University of Medical Sciences for 3 semesters, with about 10 permanent participants. They were held on a specific day and time, and lasted about one to one and a half hours, depending on the type of topics and participation of the attendees. The maximum number of people attending the sessions was equal to the number of department members in each semester (all academics and students).

However, many academics and students were not happy with the department journal clubs, and this study was conducted to identify and solve the problems of the previous journal clubs. It is worth noting that in addition to informing students and academics about the most important topics in their field, one of the main functions of journal clubs is to teach critical thinking and research methodology. One way to evaluate journal clubs is to ask for feedback from participants (12). This qualitative study was conducted to explore the strategies for holding successful journal clubs at the Faculty of Health Management and Medical Informatics of Kerman University of Medical Sciences.

## Methods

This qualitative content analysis study was carried out in

Kerman. All eligible people, including six postgraduate students (Master students of Medical Informatics at the Faculty of Health Management and Medical Informatics) and three academics of the Department of Medical Librarianship, Faculty of Health Management and Medical Informatics, Kerman University of Medical Sciences were invited to participate in the study.

All people who had a history of attending or presenting at a journal club, and were willing to talk about their experience were eligible to participate. All participants, except one, had previously presented at the journal club for 1.5 hours from 8.5 AM to 10 AM. Only one student had presented from 9.5 AM to 11 AM.

One interview was conducted with each participant. The open questions used in the interviews are presented in [Supplementary file 1](#).

Volunteers participated in semi-structured interviews done by the first author, after consent. The interviews were conducted privately, at a time and place that suited the participants. All interviews were recorded and field notes were also taken during interviews. The recorded interviews were transcribed carefully by listening to the recordings.

Each interview lasted between half to one hour. The interviews were done according to schedule from May 9, 2015 until June 8, 2015.

The interviews were continued until data saturation, and content analysis was used for data analysis without computer software. Content analysis is a research technique for making replicable and valid inferences from text material through four stages including decontextualization (identifying meaning units), recontextualization (including content), categorization (identifying homogeneous groups), and compilation (drawing realistic conclusions) (25).

## Results

In the present study, several strategies were developed for better holding journal clubs, which are listed below.

### **1. Journal clubs should be held at the right time**

The participants stated that journal clubs should be held at the right time. Some participants said it is better to hold journal clubs only once a week, preferably in the morning, in the early days of the week, to give academics and students more energy and attention. One of the participants also suggested that it should not interfere with classes, and it is better to hold journal clubs during the lunch break, between morning and afternoon classes (12 PM to 2 PM).

One of the students said: "... I'd prefer to participate in such a meeting at the early hours of the day when people have more energy, so they may pay more attention ... and the meeting would be more efficient".

In addition, many participants pointed out that they

preferred to be notified about the journal club times well in advance, not in short notice, so they can manage their own schedule accordingly. It would be preferable for the secretary of the department to accept the responsibility of notifying the participants by email, or other communication routes, and ensure that everyone has been informed. It is also better to plan journal club meetings for each month, and make the schedule available to everyone in advance.

The participants suggested that the journal club should be held regularly every week, to provide continuing education for academics and students. The participants also commented that holding journal club meetings in consecutive days is tedious, and it is better to hold them once a week, in regular and equal intervals. One of the academics believed that every student should attend at least five journal club meetings during one semester.

### **2. Journal clubs should have a person in charge**

The provision of technical and scientific support for journal clubs was observed to be another point of concern. It was suggested that before meetings commence, someone should check and fix the visual and audio systems, and make sure of the suitability of the venue. This person should also facilitate the participation of all academics, by making sure that everyone has been informed about the time and place of the journal club and inform people of any changes.

One of the students said: *"The department secretary should be present before the beginning of the session to solve the problems that may affect the order of the meeting. For example ... he/she should check that the projector is OK, the venue is ready, the participants are aware of the time and any changes ..."*

In addition, one of the academics should be responsible for supervising the selection of papers to be presented, and making sure the selected paper is the most valid published paper, and has been chosen correctly. Furthermore, academics should give regular feedback to the department about how to hold better journal clubs and keep them efficient.

### **3. Everyone should be actively involved in the journal club**

Participants pointed out that the article should be made available for all in advance, to study and criticize it before the session. Students should also be encouraged to participate in the discussion. Not only academics should be involved, but also students should actively contribute and make the journal club more productive.

An academic explained that the aim of journal clubs is to promote and strengthen critical appraisal skills among students, encourage them to participate in the discussions, and prepare better scientific presentations. The academics also believed that journal clubs make

students attain a scientific viewpoint and avoid trusting weak evidence.

*"... [In previous journal clubs] students' participation was low, because they did not read the paper before the session, so they were not able to make appropriate and correct comments".*

### **4. Critical appraisal skills should be taught beforehand**

The participants believed that, for holding a better journal club, critical appraisal and critical thinking should be taught to the participants. They also stated that the speaker has to have sufficient knowledge about critical appraisal skills, and know how to search and find the best evidence for the talk. Likewise, they must know the statistical principals for critically appraising the results.

Besides, students should participate regularly in journal clubs in order to be able to think critically, participate in discussions, understand research methodologies and appraisals, and be able to critique research results and make better and more precise statements.

Several academics believed that the presenter and participants should read the papers before the session. The presenter, in particular, should clarify ambiguities by reading relevant resources, or by asking for guidance from their supervisor in advance. The participants also suggested that the topics presented at the journal club should better address current problems, dilemmas, and needs of the community.

One of the students said: *"... Paper selection should be based on the workplace and university priorities".*

Another student said: *"It is better to select articles that create motivation for further research ..."*

It was also suggested that the presenter should be able to provide the most relevant content in a short time, with a fewer number of slides, avoid wasting time, and spend more time to critique the article.

### **5. Overcoming the barriers to holding good journal clubs**

One of the barriers mentioned by the participants was the lack of sufficient English proficiency. The participants also commented that sometimes a student expresses their own perception, rather than what the article means to say. The students must solve their scientific and English language problems and discuss them with their supervisor in advance.

One of the academics believed that, unfortunately, academics and students still do not understand the importance of journal clubs, and they think it is just a simple lecture. They must realize that it is very different from a lecture, and aims to critically appraise and scientifically discuss a paper.

Moreover, some participants believed that some departments hold journal clubs only for their prestige and students participate without learning anything, and leave the place as soon as the session is over, which is

contrary to the main goal of journal clubs.

### Discussion

In the present study, several strategies were developed for holding better journal clubs, and different factors were observed to be associated with more successful journal clubs.

According to the results, time is important, and suitable day, hour, and frequency during the week should be considered. Journal club sessions should be held regularly and according to a schedule. They should take place at a convenient and fixed time, (day of the week/time of the day) and should not interfere with classes.

Other studies have also pointed out that for having successful journal clubs, the time and location should be properly chosen (26). The study by Hossini showed that among the most important factors in the success of journal clubs are their regularity, and people's continuous participation (27). Likewise, Deenadayalan et al pointed out that the most important feature of a successful journal club is regular sessions, based on a schedule, and at a convenient time (1).

Lizarondo et al conducted a qualitative study in Australia, and showed that lack of time and heavy workload in clinical departments are important barriers for attending journal clubs (28). Similarly, Khanjani et al indicated in another study that time limitations and heavy workload among clinical academics and students are obstacles for evidence-based medical education in Iran (29). The study by Khan also concluded that it is necessary to allocate adequate time for discussing articles (30).

Another suggestion made by the present study was having technical backup or a person in charge of maintaining visual and audio systems. This person could also make sure of the suitability of the venue, the participation of all academics, and informing everyone about the time and location of the session. Besides, it was suggested that one of the academics should be responsible for supervising the selection of the papers and making sure the paper presented is scientifically valid and correctly chosen. Deenadayalan and colleagues' study showed one of the important factors for holding successful journal clubs is having a trained and responsible person for appropriate article selection and leading the discussion (1). Likewise, in Khan's study, it was stated that journal clubs need a director to organize things (30).

The importance of engaging everyone was another finding of the present study. Similarly, Lachance's study showed that the common limitation in this type of teaching strategy is lack of participation (31). The present study also suggested notifying all participants and sending the full text of the article to them in advance. Sending the article before the meeting makes it possible for the participants to read and critique the paper before

attending the session. In addition, students should be encouraged to participate in the discussion. Sending the research article and the questions for discussion to all participants beforehand is an important step to be considered, which was pointed out in the other studies as well (26). In this regard, Lizarondo et al showed that one of the problems journal club participants faced in Australia was limited access to full text articles, and therefore, not having any background about the subject (28).

Teaching critical appraisal was another important factor that was considered in the present study for holding a successful journal club. It was suggested that, for better appraisal of the papers, critical appraisal and statistical concepts should be taught to participants before the session. In addition, the fact that librarians have been supporting patient care teams in clinical settings shows the increasing importance of critical appraisal and teaching its skills (32).

In this study, the academics believed that the presenter and participants should read the paper before the session, and especially the speaker must clarify ambiguities by reading relevant resources, or by asking for guidance from their supervisor in advanced. Likewise, Zarghi et al pointed out that teaching critical appraisal skills is very important for successful journal clubs (33). The results of Alguire's study revealed that teaching critical appraisal is the most important goal of many journal clubs. The participants who know critical appraisal skills pay more attention to the methodology and the discussion of articles, and it increases their clinical epidemiology and statistical knowledge (34). Furthermore, Kaur et al showed that improvement of critical appraisal skills among postgraduate students requires more time and at least four sessions, whereas faculty might require only a single session for improvement (35). Pearce-Smith also confirmed the effectiveness of journal clubs in developing appraisal skills (36). Similarly, the results of Lizarondo and colleagues' study showed that lack of statistical knowledge is an obstacle for participants' active involvement in the journal club (28).

Ignorance of academics and students of the importance of the journal club is an obstacle for holding successful journal clubs. Moreover, some researches have shown there is not sufficient knowledge about the evidence based decision-making process, its resources, and proper article selection (21,37) and there is also a lack of proficiency and self-confidence (38). These issues could be obviated by training the participants before the early sessions of journal clubs. In addition, each journal club should be evaluated to assess how the next session could be made more useful (1,26).

### Conclusion

Although in many great universities around the world journal clubs are held routinely and appropriately, this

task has not yet been optimally performed in Kerman University of Medical Sciences. More effort should be put into holding organized, appropriate, and successful journal clubs. It is suggested that further studies be conducted in other medical departments to learn more about barriers to and facilitators for holding successful journal clubs.

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#### Authors' Contribution

**Conceptualization:** Fatemeh Motamedi.

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#### Competing Interests

The authors have no conflict of interest.

#### Supplementary Files

Supplementary file 1. Some of the open questions asked during the interviews.

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