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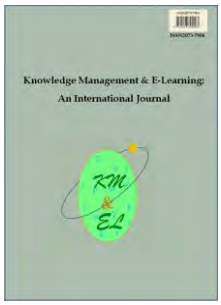

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Integrating effective journal club activities into knowledge management processes to enhance evidence-based practice, service quality, research skills, and innovation among nurses: A literature review

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Abstract: In a rapidly emerging world, knowledge management capabilities, including knowledge creation, acquisition, sharing, and utilization, become more critical for organizational change, growth, and competitiveness. Therefore, this article argues that organizations should consider implementing effective journal club meetings as an opportunity to acquire external knowledge, evaluate and integrate new knowledge into previous existing knowledge, and disseminate and utilize new knowledge to enhance product or service quality, innovation, and the performance of an organization. The article reviews relevant literature, proposes a framework for conducting effective journal club meetings, and aligns those activities with the knowledge management processes. The article proposes a framework for conducting effective journal club meetings and a process that integrates both journal club activities and the knowledge management process. By adopting this framework, journal club activities would be more effective in developing new knowledge management capabilities among individual members and enhancing organizational performance, i.e., implementing evidence-based practices (EBP), improving service quality, and producing research.

Keywords: Knowledge management; Journal club; Evidence-based practice; Quality; Innovation; Nursing

Biographical notes: Nabeel Al Amiri holds a Ph.D. in Business Management, a major in knowledge management, from the University Nasional Tenaga - Malaysia. Nabeel holds a Master's in strategic management and leadership from Skyline University College in Sharjah, UAE. Nabeel works in the nursing department at Tawam Hospital in A Ain, UAE. His research interests are healthcare management, organizational behavior, leadership, knowledge management, and innovation. He has publications in several well-known journals.

1. Introduction

In the current global situation, individuals and organizational growth depend on multiple sources of knowledge, including internal and external sources. Cohen and Levinthal (1990) proposed the concept of absorptive capacity of innovation as "the ability of a firm to recognize the value of new, external information, assimilate it, and apply is critical to

its innovation." Furthermore, Chesbrough (2003) proposed the open innovation theory that encouraged the open innovation system that allows knowledge diffusion from inside to outside and from outside to inside the organization. Both internal and external knowledge is combined and deployed within the business.

Linzer (1987) summarized three historical goals of medical journal clubs, i.e., keeping up with the literature, impacting clinical practice, and teaching critical reading skills. Journal clubs were recognized as a potentially powerful pedagogy within clinical practice and education (McGlacken-Byrne et al., 2020). For example, many medical professions worldwide, including nursing departments, adopted journal club meetings to enhance evidence-based practice (EBP) by acquiring new knowledge from outside hospitals, including research articles published in academic peer-reviewed journals. Nevertheless, a lack of evidence exists in the literature about the impact of the journal clubs on implementing EBP (Ilic et al., 2020; Häggman-Laitila et al., 2016). Also, Bhatnagar et al. (2015) claimed that the journal club tool remains significantly underutilized, and there is no agreement about an appropriate methodology for ensuring that journal clubs achieve their intended outcome and bridging the knowledge-to-practice gap.

Journal clubs conducted, for example, by many nurses were non-constant and non-standardized and failed to enhance nurses' knowledge about research types, methodology, and skills of critically appraising research and academic writing. They also failed to add significant value to nursing care or come with significant change. Häggman-Laitila et al. (2016) claimed that it is critical to develop and use specific methods to evaluate the nurses' learning needs, which differ according to their background, and assess the effectiveness of implementing journal clubs. Accordingly, based on the above-discussed problem highlighted by the literature review, the author argues that those health organizations must utilize the journal club meetings effectively; they should be planned, standardized, and monitored for quality and outcome to maximize employee and organizational benefits. Also, the journal club should be taken seriously as a platform for building research capabilities in organizations, including motivating employees to conduct research, providing them with research knowledge and skills, and using the recommendations of previous authors for their future research.

The study is significant as it stresses the concept of effective journal clubs and merges them into the organizational knowledge management capability to enhance organizational performance. The following section includes the study aim and goals, literature review, discussion, conclusion, recommendations, and limitations.

2. Research aims and questions

The study aims to review existing literature relevant to journal clubs and organizational knowledge management and to answer the following questions:

- What is knowledge management, and how does it impact organizational performance?
- What are journal clubs, and how do they impact nursing practices?
- What are the benefits of journal clubs?
- How can journal club meetings be effective?

- How can journal clubs be integrated into the organizational knowledge management capability?

Additionally, the study will propose a framework for conducting effective journal club meetings and a model for integrating journal clubs into the knowledge management process.

3. Research method

The author adopted the literature review research method described by Snyder (2019) as integrating findings and perspectives from many empirical findings to address research questions. It creates a firm foundation for advancing knowledge, facilitates theory development, creates theoretical frameworks, builds conceptual models, and provides an overview of areas for disparate and interdisciplinary research. It also uncovers the areas where more research is needed. According to Grant and Booth (2009), literature review research design has some weaknesses, such as incomprehensiveness as it is hard to include all the literature on a topic, and the chances of bias are high, as the authors may consider one view only.

The author searched well-known databases, e.g., PubMed and Google Scholar, and summarized the findings to propose a framework for effective journal club meetings and integrate the journal clubs into the knowledge management process. The author used combinations of words for database searching, e.g., knowledge management, journal club, evidence-based practice, quality, innovation, and nursing. The study included research articles, books, and other published texts.

4. Literature review

4.1. Knowledge management

Grant (1996) proposed the Knowledge-Based View (KBV) that perceives knowledge as the most strategically important of the organizational resources and central to several research traditions, organizational learning, management of technology, and managerial cognition. According to Grant (1996), the resulting theory has implications for the basis of organizational capability, the principles of organization, and the determinants of the horizontal and vertical boundaries of the firm. According to Grant (1996), the KBV describes the firm as an institution that integrates the members' specialized knowledge through a coordination mechanism rather than residing within the individual. The production requires the input of a wide range of specialized knowledge achieved through cross-learning and collaboration of organizational, and the firm facilitates knowledge integration of specialist expertise instead of the ordinary organizational hierarchies through the direct involvement of individual specialists; the firm considers the rights of employees who own the knowledge to make decisions unless a single point in the organization holds this knowledge, and then centralized decision-making is feasible, and, efficient knowledge utilization requires congruence between the knowledge domain of the firm and its product domain (Grant, 1996).

The Merriam-Webster Dictionary (n.d.) defines Knowledge as the "acquaintance with or understanding of a science, art, or technique" or simply "the fact or condition of being aware of something." According to Ichikawa and Steup (2017), Philosopher Plato

(429 – 347 B.C.E.) described knowledge as a justified true belief or, in other words, it truly happened or currently exists; we should believe in this thing to know it and be able to justify our belief. Furthermore, the Stanford Encyclopaedia of Philosophy (Steup, 2005) defines knowledge as the fact or condition of being aware of something.

Alavi and Leidner (2001) mentioned three points to understand how to apply knowledge. It differs from data and information, personalized and expressed in a manner that is easy for others to receive and has more value than accumulated information as it is actively processed in the minds to be significant. Ackoff (1989) proposed a hierarchy of knowledge that included four levels, i.e., data at the bottom, the information above, knowledge above, and wisdom at the top.

Nonaka (1994) argued that new knowledge is developed by individuals and enhanced by organizations through knowledge sharing. He developed the dynamic theory of organizational knowledge creation that proposed that organizational knowledge is created through a continuous exchange between tacit and explicit knowledge via four interaction mechanisms, i.e., socialization, combination, internalization, and externalization. Nonaka and Toyama (2003) highlighted that knowledge creation was a dialectic process where new boundaries are created through the dynamic interaction between agents, agents and structure, as well as between tacit and explicit knowledge.

According to epistemology, the science that studies knowledge, knowledge includes three types that are knowledge-how (procedural knowledge), which describes that you know how to do something, know-what (acquaintance knowledge), which describes that you know an object, and know that (propositional knowledge) that shows that you know a fact (Garud, 1997; Ryle, 1945).

Drucker (1994) concluded that a systematic approach is needed to manage knowledge quality and productivity. Wiig (1997) highlighted that organizations require systematic knowledge management. Scholars proposed several definitions of knowledge management summarized in Table 1.

Drucker (1994) described the knowledge society as an organizational society driven primarily by management and has highly specialized knowledge and workers. Theriou et al. (2009) claimed, based on the KBV, that the knowledge management capabilities make the organization own a higher performance. For example, Karasneh (2019), Ngoc-Tan and Gregar (2018), Slavković and Babić (2013), and Kör and Maden (2013) found that knowledge management had a positive effect on the different dimensions of organizational innovation, such as process and administrative innovation. Furthermore, Byukusenge and Munene (2017) found that knowledge management components, i.e., knowledge acquisition, sharing, and responsiveness, positively and directly affected innovation and indirectly affected business performance mediated by innovation. Also, Ullah et al. (2019) disclosed that knowledge management orientation plays an affirmative role in organizational performance.

On the other hand, Smith (2013) mentioned knowledge integration as an organizational phenomenon and highlighted the importance of knowledge in labour specialization and for the economy. Later, Hayek (1945) highlighted the importance of coordination between knowledge integration and specialization in economic terms. Berggren et al. (2001) defined knowledge integration as combining specialized knowledge to reach considerable results in lifting the organization's competitiveness. According to Schneider (2012), knowledge integration refers to merging two or more originally unrelated knowledge structures into one, e.g., how two companies combine the knowledge of their workers. Tell (2011) mentioned three approaches to knowledge

integration: knowledge sharing or transfer, knowledge use, and the combination of specialized and complementary knowledge. Berggren et al. (2011) described three knowledge integration characteristics, i.e., flexibility, scope, and efficiency.

Table 1
Summary of the popular definitions of knowledge management

Author	Definition
Nonaka (1994)	The dynamic theory of organization highlights that knowledge creation happens through a continuous dialogue between tacit and explicit knowledge. Organizations play a critical role in articulating and amplifying new knowledge developed by individuals through socialization, combination, externalization, and internalization.
Bhatt (2000)	The knowledge development cycle contains four components, i.e., knowledge creation, adoption, distribution, and review.
Alavi and Leidner (2001)	A process that involves various activities and minimally includes knowledge creation, storing and retrieving, transferring, and applying.
Maier and Moseley (2003)	knowledge identification and creation, knowledge collection and capture, knowledge storage and organization, knowledge sharing and dissemination, and knowledge application and use
Darroch (2003)	The process that creates or locates knowledge and manages the dissemination and use of knowledge within and between organizations.
Heisig (2009)	Knowledge management activities include knowledge transfer, creation, application, storage, identification, and acquisition.
Kuah et al. (2012)	Knowledge management includes four activities, i.e., knowledge creation and acquisition, knowledge storing and retrieval, knowledge dissemination and sharing, and knowledge utilization and application.
Wu and Chen (2014)	A process includes knowledge creation, i.e., knowledge generation, acquisition, codification, storage, and knowledge transfer, i.e., knowledge conversion, distribution, integration, and application.
Girard and Girard (2015)	The management process of creating, sharing, and using organizational information and knowledge.
Gartner (n.d.)	A collaborative and integrative approach to the creation, capture, organization, and use of intellectual assets of the organization.

Nevertheless, Jami Pour et al. (2019) argued that knowledge management projects are facing a high failure rate; they highlighted the lack of alignment between business and knowledge management strategies as one of the main reasons for this failure.

4.2. Definition of journal club

Linzer (1987), in an article titled "The Journal Club and Medical Education: Over 100 Years of Unrecorded History", documented that Sir William Osler, a famous Canadian physician and one of the four founders of Johns Hopkins Hospital, organized a journal club at McGill University in 1875 to solve the problem of keeping abreast of a rapidly enlarging volume of contemporary medical literature. Nevertheless, several authors argued that journal clubs were started earlier in Germany and England. Linzer (1987) documented that Johns Hopkins Hospital held the first weekly journal club meetings in 1889 and spread to other departments at the Johns Hopkins Medical Institution between 1914 and 1947 and later, they became a format for teaching articles' critical appraising skills to physicians, nurses, and social workers.

A journal club is defined by Linzer (1987) as a group of individuals who meet regularly to evaluate critically scientific articles and to consider the relevance of scientific information to clinical practice in local contexts. Segen's Medical Dictionary (n.d.) defined a journal club as a form of graduate education in which a group of doctors discusses, analyses, and reviews a limited number of articles from medical journals weekly or monthly.

Mattingly (1966) listed some characteristics of the most successful journal clubs, including being run on a departmental basis on the same day and time, limiting the members to around five to eight, and assigning one or two members at each meeting to select one or several papers about one subject. Mattingly (1966) also stressed avoiding overcrowding the journal club meeting and making participation voluntary as it is difficult in practice for members to meet regularly.

Topf et al. (2017) highlighted that the journal club of today is adapting to social media with some advantages, including allowing participants to be exposed to practices from outside of their environment, allowing the participation of experts in the topic, including the author of the original article, and creating an informal platform that pairs well with a journal club. On the other side, Topf et al. (2017) highlighted some challenges of the online journal club meetings, including the coordination and execution of a journal club requires a fair amount of work and the timing of the live chat is usually after work hours, which may be inconvenient for some members. Furthermore, Schimböcka and Eichhorna (2018) claimed that virtual journal clubs using social media, intranet, e-mail, or learning platforms in synchronous and asynchronous ways created an opportunity, in contrast to traditional face-to-face meetings for nurses and nursing students to learn collaboratively, while discussing EBP knowledge at a convenient time and place may overcome some possible barriers to participation, such as lack of knowledge about and critically appraising scientific literature with providing correct tutorials.

4.3. The benefits of journal club

Lizarondo et al. (2012) provided evidence for the impact of a structured model of a journal club, known as the iCAHE (International Centre for Allied Health Evidence) journal club, on the EBP knowledge, skills, and behavior of the various allied health disciplines. The iCAHE journal club model could be used alone to facilitate evidence uptake or integrated with other strategies to influence practice behavior. Lizarondo et al. (2012) suggested an in-depth analysis of the individual, contextual, and organizational factors to understand the determinants of evidence uptake in allied health.

Bowles et al. (2013) listed several advantages of journal clubs, including developing critical appraisal skills and interview skills, keeping participants abreast of current medical literature, enhancing intradepartmental social and professional networking, developing research literacy and evidence-based practice, meeting the needs of continuing medical education, and stimulate academic debate and generate new publications, such as letters to the editor and further research. Bhatnagar et al. (2015) reported that the journal club is an effective and valuable tool in training medical postgraduates to keep them updated in the field, apply critical appraisal skills, and learn research design and medical statistics. They reported many other advantages of journal club, including improving presentation and scientific writing skills, reading comprehension, and communication skills. Dall'Oglio et al. (2018) concluded in a study of five years of journal clubs with pediatric nurses and allied health professionals that multidisciplinary journal clubs were helpful in clinical practice, quality of care

improvement, and professional development. The study found that almost half of the articles brought direct and indirect implications for clinical practice in nursing and pediatric care, and topics were interesting and relevant to the participant's daily practice.

Draganov et al. (2018) found that a computerized journal club optimized the time of meetings, facilitated members' access to publications of interest, and created a database to support future research. It also helped members develop critical reading skills, learn about the research methods, stay up-to-date, and inform about the state of knowledge production in the field of research. Moraes and Spiri (2019) highlighted the benefits of a journal club on nursing management topics, including updating the nursing manager's knowledge and improving their competencies, skills, and attitudes. Furthermore, Almomani et al. (2019) reported that journal club meetings conducted in the critical care units of Hamad Medical Corporation encouraged nurses to establish the first nursing clinical research team in the critical care unit and had a positive impact on their professional development and competence as assessed through applying the specialty care competency checklist.

On the other hand, some scholars reported challenges in implementing and developing journal clubs. Dall'Oglio et al. (2018) highlighted a lack of pragmatism and difficulty bridging the gap between research and practice. Moraes and Spiri (2019) claimed that studies involving journal clubs are still scarce in Brazil.

4.4. Establishing and conducting a successful journal club meeting

Lizarondo et al. (2011) claimed that an acceptable journal club should satisfy the requirements of its users for utility and usability; it should be driven by questions relevant to the daily clinical practice and focus on the appropriateness of the evidence for implementation. Furthermore, the International Centre for Allied Health Evidence (iCAHE) focused on its model, in addition to the evidence-based practice, on the local context to make the evidence applicable and helpful in practice (Lizarondo et al., 2011).

Afifi et al. (2006) classified journal clubs based on their methodology: (1) traditional journal clubs, where juniors randomly select articles non-relevant to clinical practice and the seniors critique their presentation without using guidelines for validity and clinical application; (2) problem and evidence-based journal clubs, which are conducted systematically based on structured guidelines; (3) the methodological type where the research methodology used in studies is critically analyzed for the quality of the research, appropriateness of the data and methods, and the validity of the conclusions; and (4) combined journal clubs, which utilize dimensions of the problem-based journal clubs and methodology teaching. Muley and Lakhani (2015) found in a study among medical residents that evidence-based journal clubs appraise articles systematically critically for validity, reliability, and applicability and improve students' critical thinking and reading habits compared to traditional journal clubs. Bhatnagar et al. (2015) classified journal clubs based on the delivery mode, i.e., face-to-face or internet based.

Deenadayalan et al. (2008) recommended several best practices when establishing a new, effective, and sustainable journal club. The recommendations include: (1) establish a journal club among members of the same discipline or interests within a clinical specialty; (2) set a goal for the long-term journal club activities that could be reviewed regularly and agreed upon by participants; (3) conduct the meetings regularly, e.g., monthly and at appropriate times for all participants; (4) identify a leader who is responsible and committed to the journal club; (5) train the leader and facilitators of the journal club about research design, statistical knowledge, and presentation of the paper;

(6) use established critical appraisal approaches and structured worksheets during the journal club session, which leads to a productive discussion; (7) set a goal for each meeting, aligned with the primary journal club goal; (8) select a paper that is of interest of participants and linked to the meeting goal; (9) rotate leadership among all members; (10) provide all members with a copy of the selected paper at a suitable time before the meeting, e.g., a week or more; and (11) provide incentives to participants, such as snacks or coffee.

Alam and Jawaid (2009) suggested teaching critical appraisal of literature and EBP to journal club members through classroom courses and workshops and evaluating the journal club by gathering feedback from them at the end of each session. Moore et al. (2013) suggested in a study of implementing a journal club for master and doctoral social work students to start with introductory tutorials that include topics about library search techniques, evidence-based practice, critical appraisal techniques, formal statistical analysis, and article presentation guidelines. They suggested advertising the tutorials to students by adding them to the school course calendar and posting fliers about the tutorials in community spaces. Furthermore, McGlacken-Byrne et al. (2020) highlighted that mandatory attendance was suggested to fulfil continuing medical education or portfolio requirements.

Regarding the successful handling of the articles, Bowles et al. (2013) suggested ignoring the abstract and recommended several guiding steps for journal club presenters. These included (1) explaining the clinical question and what attracted the presenter to the article; (2) discussing the title of the article, including keywords; providing the complete reference of the article, e.g., in APA style and discussing any outstanding features about the article, such as citations, the name/s and affiliation of the author/s, their academic contributions in the field, and the journal's impact factor, scope, and indexing; (4) reviewing the main study question or goal and sub questions or goals; (5) appraising the evidence base by looking to the key references, its relevancy to the topic, adequacy, and presentation; (6) discussing the study design, including the study type, the population and sample type and size, the data collecting tool, and the inclusion and exclusion criteria, and any possible fault or inconsistency among all these elements; (7) reviewing the results, including the statistical tools adopted, data presentation, e.g., the supplementary tables and graphs, and how clear and significant the result is; (8) reviewing the discussion and interpretation of how the authors explain and justify the results, the strengths and weaknesses of the study, limitations, and any possible conflicts of interest; (9) discussing clinical context and how the paper could change clinical practice; (10) considering writing a letter to the editor to find whether the comments of members, such as particular points of merit, inconsistencies, or statistical short fallings, are of interest to the journal; and (11) discussing if the article could be replicated in your area or suggest new ideas for future research.

4.5. Determining the strength of evidence

The literature proposes several evidence classification systems, e.g., the Evidence-Based Pyramid produced by Glover et al. (2006), the American Association of Critical-Care Nurses (AACN) evidence-level system (Armola et al., 2009), and the Johns Hopkins Nursing EBP Model (Dearholt & Dang, 2012). Del Mar et al. (2013) claimed that there is no universally agreed-upon hierarchy of evidence for study types. Those classification systems are also presented as visual pyramids, where the least reliable is at the base, and the most reliable is at the apex (Ingham-Broomfield, 2016).

Melnyk et al. (2016) proposed a rating system for the Hierarchy of Evidence, which includes seven levels; level one is a systematic review or meta-analysis of all relevant randomized controlled trials (RCTs); level two is a well-designed randomized controlled trial (RCT), level three is well-designed controlled-trials without randomization trial (quasi-experiment); level four includes well-designed case-control and cohort studies; level five is a systematic review of descriptive and qualitative (qualitative or survey) studies; level six is a single descriptive (qualitative or survey) study; and level seven is an opinion of authorities or reports of expert committees.

The Johns Hopkins Nursing EBP Model included evidence quality criteria: the high-quality research evidence should be consistent, generalizable, have a sufficient sample size, adequate control, definitive conclusions, and consistent recommendations; the quality research evidence should be reasonably consistent, have enough sample size, some control, fairly definitive conclusions, reasonably consistent recommendations, and based on a fairly comprehensive literature review that includes some reference to scientific evidence; and the low quality or major flaws, which has little evidence with inconsistent results; insufficient sample size, and without conclusions (Dearholt & Dang, 2012).

5. Discussion

The literature review disclosed that effective journal clubs could be the best method to build the absorptive capacity of identifying the value of new external information, assimilating it, and applying it in practice. The literature review suggested understanding the individual, contextual, and organizational evidence uptake determinants to build the absorptive capacity (Lizarondo et al., 2012). The literature also highlighted several goals for effective journal clubs. First, to keep up with the evidence-based literature (Draganov et al., 2018; Bhatnagar et al., 2015, Bowles et al., 2013; Lizarondo et al., 2012; Linzer, 1987); second, to impact clinical practice (Almomani et al., 2019; Dall'Oglio et al., 2018; Bowles et al., 2013; Linzer, 1987); third, to develop critical appraisal skills (Draganov et al., 2018; Bhatnagar et al., 2015, Bowles et al., 2013; Linzer, 1987); fourth, to enhance intradepartmental social and professional networking (Bowles et al., 2013); fifth, to improve presentation skills (Bhatnagar et al., 2015); sixth, to develop research skills, such as research design, statistics, and academic writing (Draganov et al., 2018; Bhatnagar et al., 2015); seventh, to generate new research (Draganov et al., 2018; Bowles et al., 2013).

The authors suggest combining the problem-based and methodological journal clubs (Afifi et al., 2006) to achieve the above summarized seven goals of effective journal clubs. The combined journal clubs include activities, mainly discussing the clinical problem, reviewing information about the article, appraising the literature review, the methodology, the result, the discussion, and the article conclusion, and finding the possibilities of changing clinical practice and future research. Moreover, the face-to-face and virtual journal clubs, based on the literature review, are acceptable as both have advantages and disadvantages. Fig. 1 presents the main elements of effective face-to-face or virtual journal clubs.

On the other hand, the literature review revealed several definitions of knowledge management. However, Girard and Girard (2015) identified the most common terms among more than 100 definitions of knowledge management, i.e., knowledge-creating, sharing, and using. Also, this definition is similar to Darroch (2003), who defined the knowledge management process as creating or locating knowledge, dissemination, and responsiveness or using knowledge within and between organizations.

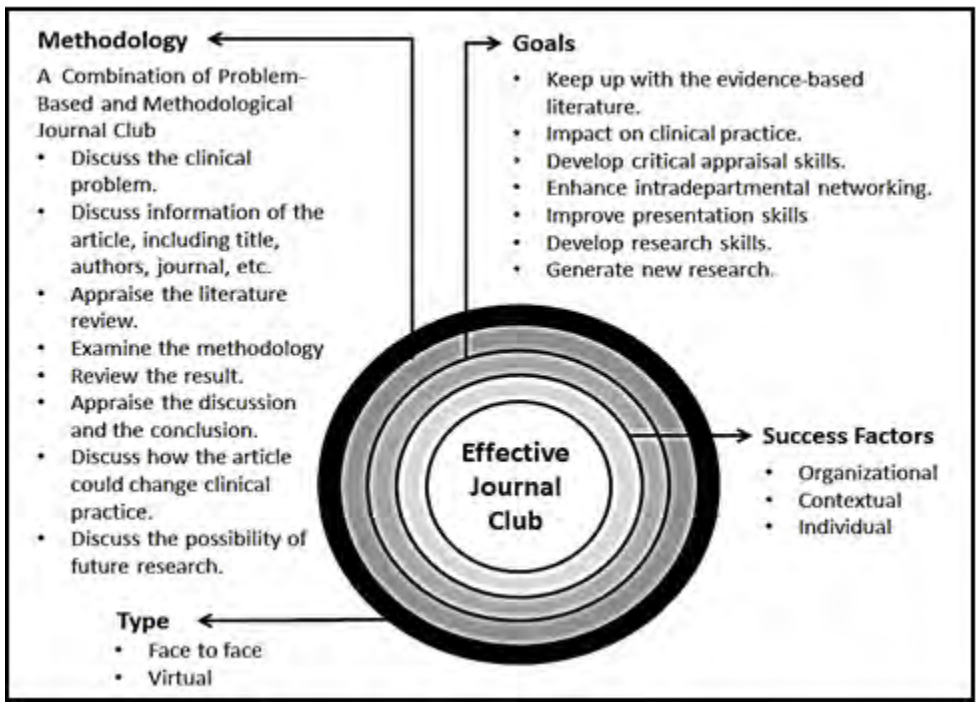

Fig. 1. A framework for an effective journal club

Furthermore, some scholars, e.g., Smith (2013) and Hayek (1945), proposed the concept of knowledge integration, which is the combining specialized knowledge to improve organizational competitiveness (Berggren et al., 2001) or merging two or more originally unrelated knowledge structures into one (Schneider, 2012). Accordingly, the author proposes a model that integrates effective journal clubs into the organizational knowledge management process steps proposed by Darroch (2003) and Girard and Girard (2015), i.e., knowledge-creating or acquiring, sharing, and using.

Fig. 2 presents the proposed model integrating effective journal clubs into the knowledge management process. The model includes several steps, i.e., a) acquiring new knowledge as peer-reviewed articles selected from academic journals indexed in well-known databases, such as Scopus and Web of Science, b) discussing the article by the journal club members to determine the strength and the quality of the evidence, c) comparing and combining the evidence with existing knowledge to determine how to use this evidence, d) sharing the new knowledge with managers and other employees in the form of reports (Appendix A), presentations, videos, or discussions in the unit meetings, and e) using the new knowledge in EBP projects, quality improvement projects, and new research development or study replication.

6. Conclusion

This article proposes a framework for conducting effective journal club meetings. Journal club meetings have many benefits for employees, especially for those working in health care. This includes keeping medical practitioners updated and improving their knowledge and skills in EBP and research. The article also proposes a model for integrating the knowledge outcomes from journal clubs into organizational knowledge management

processes. The sharing and use of knowledge that comes out of journal clubs could improve the organization's innovation, performance, and competitiveness.

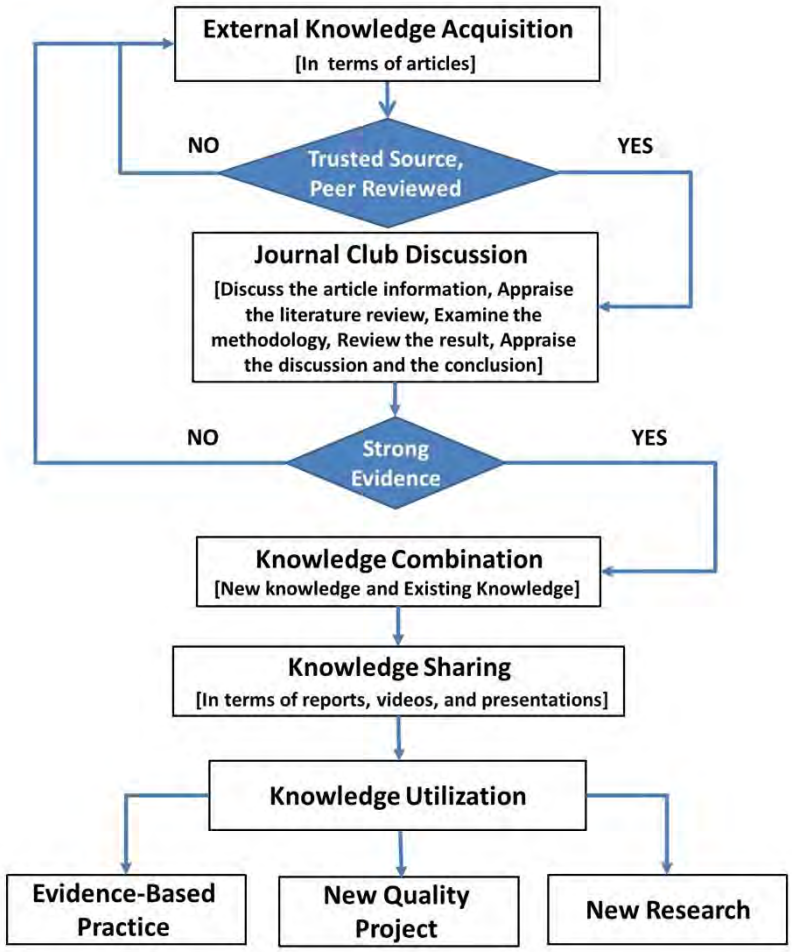

Fig. 2. Journal clubs integrated into the knowledge management process

7. Recommendation

The article recommends that organizations adopt the proposed framework for conducting effective journal club meetings and integrate the knowledge that comes from journal clubs into organizational knowledge management processes. In addition, further research is needed to determine the success of the proposed framework in achieving higher research knowledge and skills among employees, such as nurses, and higher levels of organizational performance.

8. Limitations

The article adopted a literature review research method, considered weaker than other research methods. For example, the literature review research design, as claimed in the literature, has several weaknesses, such as the literature searching process was not structured and incomprehensive due to time and resource restrictions, and the chance of bias in selecting the articles is higher than in other research designs, such as systematic review. Although the authors considered those weaknesses in searching and selecting the articles, there is still no guarantee about eliminating bias and being comprehensive. The study included all published papers, i.e., articles, books, and others.

Author Statement

The author declares that there is no conflict of interest.

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Appendix A

A Journal Club Meeting Report Integrated with the Knowledge Management Process.

Facility: _____

Unit: _____

Name of the Journal Club: _____

A- Meeting information

Date	
Time	
Type of the meeting	
Name of facilitator	
Number of attendance	
Starting time	
Ending time	

B- Clinical problem

What is the current situation or problem?

C- Article information

Question	Discussion Summary
How do reference the article?	
What is the title?	
Who are the authors?	
What is the name of the journal?	
Is the journal peer-reviewed?	
Please, mention anything special about the article in terms of the author's affiliation and academic contribution in the field, article citation, and journal's scope, impact factor, and indexing.	

D- Discussion

Question	Discussion Summary
• What are the main objectives questions of the study?	
• Is the article question similar to your clinical question?	
• Is the literature review	

comprehensive? • Is the literature review related to the topic? • Is the literature review written well and systematic? • What is the gap in the literature that rationalizes the study?	
• What is the study design? • What is the population of the study? • What is the sample type and size? • What are the independent and dependent factors? • What are the study hypotheses? • How the data is collected? • What are the inclusion and exclusion criteria? • Do you find any fault or inconsistency among all these elements?	
• How do the authors analyze the data- tool and type? • How do the authors present the data? • How significant the results are?	
• How do the authors interpret the results? • What are the strengths and weaknesses of the study? • What are the limitations of the study? • Did the authors declare any conflict of interest? • Is the conclusion based on the literature review and study's results?	

E- Level of Evidence Strength and Quality

Level of Evidence based on Research Design
□ Level 1: Systematic review or meta-analysis of all relevant randomized controlled trials (RCTs). □ Level 2: Well-designed randomized controlled trial (RCT). □ Level 3: Well-designed controlled trials without randomization trial (quasi-experiment). □ Level 4: Well-designed case-control and cohort studies

□ Level 5: Systematic reviews of descriptive and qualitative (qualitative or survey) studies. □ Level 6: A single descriptive (qualitative or survey) study. □ Level 7: Opinion of authorities and/or reports of expert committees. *Adopted from Melnyk (2016)
Research Quality:
The decision to accept a research is based on careful examining the quality of the research: • Literature review (□ comprehensive, □ fair, □ not). • Sample size (□ adequate, □ fair, □ not). • Control (□ adequate, □ fair, □ not). • Results (□ consistent, □ fair, □ not). • Conclusions (□ definitive, □ fair, □ not). • Recommendation (□ consistent, □ fair, □ not).

F- Knowledge Dissemination and Utilization

Question	Discussion Summary
What is the current practice in your facility?	
How could the article change clinical practice?	
What is the possibility of any future quality project?	
What is the possibility of any future research project?	
How are you going to disseminate the journal club meeting outcome with other employees?	
Did you make a report to the management?	
Did you write a letter to the editor?	