

Organizing Evidence Based Medicine (EBM) Journal Clubs in Department of Neurosurgery, Tabriz University of Medical Sciences

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Abstract:

Introduction: A journal club is a group of individuals who meet regularly to evaluate critically the clinical application of latest medical literature. Evidence-based medicine (EBM) is 'the use of current best evidence, in making decisions about the care of individual patients'. For this purpose, we organized journal clubs using standard EBM method, to substitute for traditional ones, evaluating efficacy of evidence based meetings in improvement of medical education in department of Neurosurgery.

Methods and Materials: After six traditional journal clubs two validated questionnaires (evaluating organizing method and degree of satisfaction), were filled out by the residents. After an instructing workshop and six evidence based journal sessions, the same questionnaires were completed by the attendees. The collected data were analyzed using SPSS 17.

Results: The mean score of the first questionnaires (Evaluating the method of organizing sessions) 16.72 ± 7.86 (median=14) for traditional journal clubs and 40.18 ± 6.38 (median=40) for evidence based forms ($P=0.003$). The mean grade of the second questionnaires (degree of satisfaction) was 13.18 ± 4.6 (median=14) and 21.90 ± 4.27 (median=22), for traditional and evidence based ones, respectively. ($P=0.006$).

Conclusion: The aim of evidence based journal club is to help individuals to evaluate the current literature critically. The best way to decide if any adjustments are necessary is to ask the participants whether they are satisfied with the conference. As improvement of critical judgment is the goal of the journal clubs, the response of the resident according to the knowledge of methodology and biostatistics, is a principle. In present study, significant improvement in critical appraisal skills was seen after holding evidence based journal clubs.

Key Words: Journal Club, EBM, Neurosurgery

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Introduction

"Journal club" is defined as a group of people who assemble regularly to analyze latest medical articles. As an educational process, journal club has a long history which is explicated by "Linzer".⁽¹⁾

The first journal club was a gathering of a group of doctors and medical students at a room over a baker-shop near the entrance of Bartholomew hospital for discussing medical journals, in 1800, which has been reported by "Sir James Paget".⁽²⁾

Preliminary journal clubs has evolved a lot and have been included in curricula of almost all medical fields and training centers for instructing residents.⁽³⁾ Previously, the clubs were held for the purpose of updating knowledge of the participants, but nowadays they are mostly considered as a way of teaching critical appraisal skills, encouraging the use of Evidence Based Medicine (EBM) in clinical practice, educating research-design, biostatistics and epidemiology, which is a part of the main skills required by Accreditation Council for Graduate Medical Education of all residency Programs.^(4, 5)

Furthermore, there are papers reporting use of journal clubs for introducing educational concepts to the professors, presenting articles on teaching methods, assessing and discussing them. These sessions are managed by a clinical faculty member (an attending) and an educational affairs specialist. The articles to be presented, reflect problems and challenges of academic faculty members in teaching and learning.^(6, 7)

As mentioned before, journal club is a component of educational curriculum in almost all clinical wards. Organizing evidence-based journal clubs is growing, in different medical fields, all over the world.⁽⁸⁻¹¹⁾ In neurosurgery department of Tabriz University of Medical Sciences, journal clubs were held based on traditional and routine method, each session commenced with reading text of an afore-selected article, without analyzing the scientific value of it, merely focusing on the results and finishing with discussion on the findings. The conversations and given comments were usually based on personal experiences of attending and professors, without any statistical or methodologic-supervision.

Since scientific value of the presented article is of great importance, which was rarely

evaluated, we organized journal clubs using standard EBM method, based on academic and detailed critical appraisal of the articles, to substitute for traditional ones, evaluating the efficacy of evidence based meetings in improvement of medical education.

Methods and Materials:

This study was done at Neurosurgery department of Tabriz University of Medical Sciences. For the purpose of data collection, two validated questionnaires were filled out by the residents of neurosurgery regarding the routine journal clubs. A two-session workshop introducing evidence based journal club (history, aims, methods of critical appraisal of medical texts) was organized and after six evidence based journals sessions, meeting standard features of an evidence based journal club, the same questionnaires were completed by the attendees and the scores were compared with the previous ones.

Each journal session was hold at conference hall of neurosurgery department, as previous ones. The duration of each session was not changed and were same as the former ones.

In each meeting an article was discussed. It was attempted to include papers of different study-models, omitting the repetitive ones. The schedule, encompassed papers of clinical trials (diagnostic and therapeutic), cross-sectionals (diagnostic) and observational studies (case-controls) and presentation. Types of presented articles were the same in both traditionally and newly held journal clubs.

The preliminary forms of the questionnaires were designed by the researcher (a professor of neurosurgery) according to the related references and literature and were edited by a biostatistics specialist and were revised by 10 professors of Tabriz University of Medical Sciences. The final formats were prepared after making the proposed changes.

Because of the limited number of residents of neurosurgery in our department, the sample included the whole study-community. Inclusion criteria were attendance of the resident in all journal meetings and willingness of the individual to take part in the study. All respondents were from permanent residents of the department and 11 people met the criteria, which included all residents of neurosurgery.

For analysis, the collected data were reported in the form of descriptive statistics (amount, percentage, average and standard deviation), average difference (for dependant groups) and correlation coefficient (if it was needed). The used statistical software was SPSS. Version 17.

Results

This study evaluated efficacy of two methods of organizing journal clubs, comparing the EBM method with the routine one. The average score of the first questionnaire (evaluating the method organizing journal sessions and also critical appraisal skills of the responder), was 16.72 ± 7.86 (median=14) for traditional and 40.18 ± 6.38 (median=40) for EBM based ones, the difference was statistically significant ($P=0.003$). The average score for the second inquiry form (degree of satisfaction) was 13.18 ± 4.6 (median= 14) for routine conferences and 21.90 ± 4.27 (median=22) for EBM based journal meetings, which had statistically considerable importance ($P = 0.006$).

Discussion

Chesney, in the history of Johns Hopkins hospital, mentions the first journal club held on October 29th, in 1889, which was arranged weekly, till it spreaded to other departments.⁽¹⁾ From 1914 to 1947, the clubs were held in the houses of the professors, monthly, in 1926, Dr. Dudley, established the first journal conference in university of Kentucky. Dr. Ludwig Eichna, in 1946, organized a journal club in University of New York, in which well-known professors were attending. For each assembly, 3 subjects were selected and after each presentation, participants discussed on the issue.⁽¹⁾ Actually, nowadays holded journal clubs are results of Dr. Eichna's endeavors.

Since 1980, there are reports of journal clubs, which were based on critical evaluation of medical articles, aimed at more comprehensive and understandable teaching of scientific and medical concepts, for his residents.⁽¹⁶⁾ Woods and Winkel proposed 4 formats of journals clubs for resident of Gynecology.⁽¹⁷⁾ Gehlbach et al. planned 8-week journal conferences for residents of family-medicine and Riegelman et al., in

university of McMaster suggested a frame for critical assessment of the medical papers.⁽¹⁾

The objective of evidence based journal conferences is helping medical staff in critical appraisal of medical texts and making fundamental changes in clinical practice.^(12, 13) This way, the residents become self-stimulated, lifelong learners which keep them up to date and help to improve clinical judgment in their daily clinical practice.⁽¹⁴⁾ The best way for making these changes is asking the attendees, whether or not they are conceived with the conference. As improvement of the critical judgment is the goal of journal clubs, the response of the resident according to the knowledge of methodology and biostatistics, is a principle.⁽¹⁵⁾

The current study investigated the effect of changing the traditional routine journal clubs to the evidence-based ones, on critical appraisal and clinical judgment of neurosurgery residents of Tabriz University of Medical Sciences. There was considerable and significant improvement in attitude, needfulness and critical judgment skills, among the residents, showing the efficacy of evidence based teaching of medicine.

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