



Full Length Research Paper

Perceptions of Nigerian anaesthesia resident doctors concerning journal club meetings - a pilot study

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ABSTRACT

Journal clubs have been used for many years in medical education to promote the discussion and critique of research. Participants meet regularly to critique research articles in order to improve their understanding of research design and critical appraisal. However, fluctuations in residents' attendance and high attrition of clubs remain a major factor militating against the successes of these clubs. The objectives of this study were to evaluate the views of junior residents in anaesthesia concerning the quality of journal club meetings in their hospitals, their beliefs about the extent to which journal clubs contributed to their educational advancement and their suggestions about ways to improve journal club meetings. A cross sectional survey was performed using a structured, self-administered and anonymous questionnaire that was distributed to junior anaesthesia residents attending a refresher course in a tertiary medical centre. The questionnaire was pretested and the final draft was based on feedback obtained. The survey data were presented as simple percentages, while narrative comments were collected. Forty copies of the questionnaire were distributed but only 28 (70%) of them were completely filled and subsequently analyzed. The mean number of years spent in residency training programme by the respondents was $2.62 \pm$ years, with a range of 1 to 7 years. Ten (35.71%) of the respondents reported that journal club meetings were held 4 times a month in their centres. Ten (35.71%) other respondents reported that the frequency of journal club meetings in their centres was 2 per month while 8 (28.57%) of the respondents indicated that the meetings were held once each month in their centres. The mean duration of each meeting was sixty minutes, with a range of 30 minutes to 240 minutes. Eight (28.57%) of the respondents claimed that journal club meetings in their centres were coordinated by consultants while 20 (71.43%) of them said it was coordinated by senior registrars. Eight (28.57%) of the respondents attended the meetings voluntarily, while 20 (71.43%) attended because it was mandatory. Eighteen (64.29%) of the respondents attended the meetings to learn how to read scientific papers. Twenty-two (78.57%) of the participants hoped to learn how to design studies. Eighteen (64.29%) of the participants, wanted to learn how to do correct critical analysis of anaesthesia journal articles. Only 24 (85.71%) of the respondents believed that they benefitted from attending the journal club meetings. Six (21.43%) of the participants scored the quality of journal club meetings in their centres as above average, 8 (28.57%) of them felt it was average while 14 (50.00%) scored it as below average. Fourteen (50%) of the participants recommended introduction of statistics and change of format while 20 (71.43%) suggested the setting of goals and defining of objectives for successful management of journal clubs. The result of this study showed that the participants were familiar with the contribution of journal clubs to improvement of their education and professional careers. The low score of quality of journal club meetings was a call for action. Also, the suggestions made for improvement of journal clubs will contribute to our understanding of the wider needs for better journal clubs.

Keywords: Journal clubs, education, anaesthesia resident doctors, perceptions.

INTRODUCTION

Journal clubs have been used for many years in medical education to promote the discussion and critique of research. The first record of a medical journal club was the one founded in 1875 by Sir William Osler (Dirshl et al., 2003; Forsen et al., 2003). He originally described the journal club as facilitating the distribution of unaffordable periodicals, and later evolved it into a book and journal club that met over dinner to review the latest in medical research. A journal club has been defined as a group of individuals who meet regularly to discuss critically, the clinical applicability of articles in the current medical journals (Linzer, 1987). At the outset, journal clubs were intended to motivate individuals to stay current with literature in their fields. However, this goal became unrealistic with a surge in the number of medical journals in circulation, and objectives had to change for most journal clubs to promoting evidence-based practice, teaching critical appraisal (Swift, 2004) and encouragement of research utilization (Kirchhoff and Beck, 1995).

Although most residency training programmes sponsor journal clubs, they are not equally successful in meeting their educational goals or maintaining residents' interest (Alguire, 1998). Many clubs are functioning poorly, being characterized by fluctuating levels of apathy and poor attendance by resident doctors (Swift, 2004). Other problems of some journal clubs include: lack of time, inadequate preparation, and lack of goals, interest, or participation (Heiligman and Wollitzer 1987; Mattingly 1966). Perhaps, it was these observations that informed Sidorov's (Sidorov, 1995) pessimistic definition of successful journal clubs as those with longevity (at least two years) and high levels of residents' participation (at least 50% attendance). Another way of assessing success in club meetings is by asking residents to self-evaluate their clinical reading habits. Part of the goals for introducing journal club meetings early in junior residency, is to foster the residents' interest in the specialty through a wide-ranging discussion outside the traditional classroom. They are also exposed to broad topics in the literature. There is a scarcity of audit reports and studies on this all-embracing topic in our environment, especially in relation to junior anaesthesia residents.

Therefore, the primary goal of this survey was to determine if junior anaesthesia residents understood the importance of journal club activities to their educational advancement. Our secondary aim was for the respondents to assess the quality of their journal club meetings and suggest how they can be improved in their centres. The outcome of this pilot study could enable co-ordinators of journal clubs to formulate new strategies to improve the quality of journal club meetings in their centres.

METHOD

Study Design

A cross sectional survey was performed using a self-completion questionnaire which was designed and distributed to junior anaesthesia residents who attended a refresher course. For this study, a junior resident is one that is in residency training programme, but has not passed part 1 fellowship examination of the postgraduate medical colleges, irrespective of the number of years spent in the programme. Participation of the residents was voluntary and anonymous, without their giving their names. The questionnaire was sent to two experienced colleagues for review and to improve consistency of answers, readability and ease of completion. A pretest was carried out on the questionnaire with five junior residents in anaesthesia selected by simple random sampling. After completion of the pretest, they returned the copies of the questionnaire and minor amendments on wordings were made.

A copy of the questionnaire was given to each of the 40 participants attending the refresher course, 32 of them returned the questionnaire but only 28 copies were completely filled. Questions were designed to obtain information on the number of years spent in residency training programme, the duration of journal club meetings, awareness of the importance of journal club in advancement of career and education, reasons for attending meetings, assessment of quality of club meetings and change in reading habits influenced by club meetings. Also, inquired were ranks of club co-ordinators and attendance of club meeting outside respondents' centre. An open space was left at the end of the questionnaire entitled "suggestions on how to improve the success of journal club meetings". Copies of the questionnaire were distributed by hand to respondents, filled and collected within the space of a one hour break in-between lectures. Survey data were analysed with electronic calculator and presented as percentages while narrative comments were collected.

RESULTS

Forty copies of the questionnaire were distributed and 32 (80%) were returned. Four (10%) of those given the questionnaire claimed no journal club meetings were held in their centres, so that only 28(70%) of the distributed copies of the questionnaire were filled and subsequently analysed. These respondents came from "thirteen centres representing all of" the 6 geopolitical zones of Nigeria (Table 1). The mean number of years spent in the residency programme by respondents was 2.62 years, with a range of 1 to 7 years. Ten of the respondents claimed that 4 sessions of journal club meetings were

Table 1. Distribution of the respondents according to centres and geopolitical zones in Nigeria.

Centre	Geopolitical zone	Number of respondents
A	South West	2
B	South West	2
C	South West	2
D	South West	1
E	South South	3
F	South South	2
G	South South	1
H	South East	2
I	South East	3
J	North Central	3
K	North Central	2
L	North West	3
M	North East	2
Total 13		28

held in their hospitals every month. Ten other respondents said that they held journal club meetings twice in a month while 8 of the respondents reported that the meetings were held once in a month in their own centres. The mean duration of time spent on each journal club meeting was 60 minutes, with a range of 30 to 240 minutes.

Eight (28.57%) of the respondents claimed that journal club meetings in their centres were co-ordinated by consultants while 20 (71.43%) of them said that the meetings were coordinated by senior registrars in their centres. Eight (28.57%) of the respondents attended the meetings voluntarily while 20 (71.43%) attended because it was mandatory.

Also 18 (64.29%) respondents attended the meetings to learn how to read scientific papers while 10 (35.71%) respondents indicated it was not their interest. Twenty two (78.57%) of the participants hoped to learn how to design studies, while 6 (21.43%) showed no interest in same. Eighteen (64.29%) of the participants wanted to improve their capacities for critical analysis of journal articles in anaesthesia. Only 24 (85.71%) of the respondents believed that they benefitted from attending the journal club meetings while 4 (14.29%) of them thought otherwise. Fourteen (50%) of the respondents read anaesthesia journals sparingly, 6 (21.43%) read occasionally, while 8 (28.57%) read frequently.

The number of respondents that had attended journal club meetings outside their centres and found that they were better organized and focused was 14 (50%). Ten (35.71%) of the respondents never attended any journal club meetings outside their centres while 4 (14.29%) did not give any response to this question.

Six (21.43%) of the participants scored the quality of journal club meetings in their centres as above average,

8 (28.57%) felt it was average while 14 (50%) scored it below average. On suggestions about how to improve journal clubs, 14 (50%) of the participants recommended introduction of statistics and change of format while 20 (71.43%) suggested setting of goals and defining objectives for successful management of journal clubs.

DISCUSSION

This study showed that junior residents in anaesthesia were aware of the importance of medical journal club activities to their educational and career advancement, and demonstrated their capacity to proffer solutions on how to improve the quality of journal club meetings. The results also showed that the frequency of journal club meetings varied from one centre to another. The optimum frequency of journal club meetings has not been established. It has however been recommended (Deenadayalan et al., 2008) that journal club meetings be conducted at regular predictable intervals, preferably monthly, and at an appropriate time of the day for all participants.

Also, the differences in the duration of the journal club meetings reflected a lack of consensus. Mishra et al (Mishra and Agarwal, 2013) suggested that the duration of a journal club meeting should not exceed 45 minutes including the time for discussion, and this submission implies discussion of one article only per meeting and meetings may take place more frequently. It may be a good technique for initiating first meetings and allowing members to gain confidence. However, the weakness of shorter duration is that the critique is limited to an article, thus preventing participants from considering the breadth of evidence and discussing differing findings or replicated

studies. Meanwhile, a journal club meeting that considers some papers on definite topics requires a longer session and more time for preparation. The advantage is that it is preceded by a more rigorous literature search for high quality evidence, and participants can discuss contrary views and try to reach an agreement over change in clinical practice.

The preponderance of Senior Registrars as journal club leaders in this study is in conformity with the position of Sidorov (Sidorov, 1995), who argued that the trainees may be less inhibited in asking questions in a club run by one of their senior trainees. Moreover, the leaders too may be accustomed to the needs of their colleagues. Nevertheless, the presence of consultant anaesthetists in journal club meetings as leaders in this study remains relevant. It has been suggested that the leader of the journal club can be either a faculty member or a chief resident. More importantly, this person must be someone with both strong interest in resident education and a belief that the journal club plays an important role in it (Valentini and Daniels, 1997). Regular attendance of meetings by faculty and community physicians correlates with high level of satisfaction among residents (Akhund and Kadir, 2006) and also, it is note-worthy that a designated competent journal club leader correlates with effectiveness (Heiligman and Wollitzer, 1987; Deenadayalan et al., 2008).

Respondents scored mandatory attendance as a main reason for their presence in journal club meetings. Other studies have confirmed that clubs with high attendance and longevity have mandatory attendance as one of their characteristics (Sidorov, 1995). Other incentives included in the literature are food (Sidorov, 1995; Deenadayalan et al., 2008) and perceived importance of the meeting by the programme supervisor (Valentini and Daniels, 1997; Van Derwood et al., 1991). However these items were not included in our study.

Our results also showed that majority of the respondents believed that they benefited from attending journal club meetings. Although, this did not reflect as an improvement in their reading anaesthesia journals, as most of them read occasionally. This agrees with the observation by Swift (Swift, 2004), who documented that it seemed unlikely that journal clubs encouraged participants to read more. However in an earlier study, Seelig (Seelig, 1991) evaluated the impact of club meetings on reading habits, knowledge and behaviour of residents, but reported that participants spent more useful time reading, while unaffected were the total time spent reading journals and reasons for reading. His sample size of 13 was however, too small for the result to be valid.

The respondents suggested change of formats, introduction of statistics, setting of goals and defining of objectives in the management of journal clubs as being necessary for successful journal clubs. Formal teaching

of biostatistics and clinical epidemiology is one of the features common to journal clubs that have succeeded in achieving high resident doctors' attendance (Deenadayalan et al., 2008).

Fifty percent of the respondents in this study scored the quality of organization of the journal clubs in their centres below average. While this result may cause anxiety, it also shows the need to improve the quality and effectiveness of these journal clubs

Suggestions to improve the effectiveness of journal clubs include: incorporating a structured checklist for article review, adoption of principles of adult learning that include relating the task to personal goals, using problem solving techniques and changing teaching methods to suit different learning styles (Swift, 2004). It is also important to set clear short and long term goals, provide incentives to residents to create anticipated and regular meeting attendance (Deenadayalan et al., 2008). Leaders of journal clubs should always make available recent articles that perhaps contradict old truths and have relevance to perceived clinical experiences (Valentini and Daniels, 1997). For optimal success in journal club meetings in the near future, there may be need to incorporate critical review paper into part II fellowship examinations of the postgraduate medical colleges. This approach has led to revival of interest in journal clubs among residents in psychiatry, as critical review paper has become a component of part 11 MRCPsych examination since 2000, (Swift, 2004).

The strength of this study is in the face-to-face administered survey which potentially lowers cost, reduces survey overhead, and data were collected quickly and efficiently with a high response rate. Also, while a large sample size may closely reflect the segment of the population being surveyed, a small representative sample as in this case, can provide a similar data. The weaknesses of this study include small sample size, questions were not exhaustive (e.g. questions were not asked about the quality of journals and the individual papers selected for review) and outcomes may be subjective. In addition, we recognize that we surveyed only junior residents whose perceptions may be quite different. Feedback from outcome of this study will need to be given to the centres where the participants were undergoing training so as to improve the quality of their journal club meetings. Further studies are necessary to determine if journal clubs can improve educational outcome and promote life-long competence in clinical practice.

In conclusion, the result of this study showed that the participants were aware of the contributions of journal club meetings to improvement of their education and professional careers. It also has demonstrated the urgent need for medical educators to review the current journal club formats and come up with new strategies to improve both contents and quality of our journal clubs.

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Declaration of interest

The authors report no conflict of interest and accept responsibilities for the content and writing of the paper.

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APPENDIX

FORMAT OF QUESTIONNAIRE

1. Name of institution.
 2. Number of years spent in residency.
 3. Rank in residency.
 4. Does your department conduct journal club meeting? YES/NO
 5. How many times per month?
 6. For how many hours per sitting?
 7. Is your club co-ordinator a consultant? YES/NO
 8. Why do you participate in your club meeting?
 - (a) Because it is mandatory. YES/NO
 - (b) To learn how to read scientific papers. YES/NO
 - (c) To learn to design a study. YES/NO
 - (d) To learn critical analysis of scientific articles. YES/NO
 9. Do you think you have benefited from attending these meetings? YES/NO
 10. How often do you read anaesthesia journals?
 - (a) Rarely (b) Occasionally. (c) Frequently.
 11. Have you ever attended journal club meeting outside your centre?
 12. Did you observe any differences and what were they?
 13. What is your impression of the quality of organization of journal club in your centre?
 - (a) Below average. (b) Average. (c) Above average.
- Please add any suggestions on how to improve the success of journal club meetings