Role of grand rounds in the education of hospital doctors

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The educational role of grand rounds in continuing medical education of junior hospital doctors is unclear. In this article, the authors examine the benefit for junior doctors of attending grand rounds by assessing a groups' knowledge a week before, and 4 days after a grand round. The scores obtained were compared between pre- and post-grand round periods and between grand round attenders (fully or partly) and non-attenders.

INTRODUCTION

Grand rounds can be classified as large group teaching. While these large group formats tend to encourage passive learning (Cantillon et al, 2003), they are perceived to be teacher centred, potentially not reflecting the learning objectives or needs of the audience. Grand rounds in particular are a unique large group teaching method, as the audience comprises individuals from different career and learning stages, from medical students to consultants.

There is little published data available relating to the effectiveness of grand rounds as a forum for teaching and learning. Their roles in educating junior doctors who attend the rounds are rarely assessed and largely unknown – although attendance is supposedly mandatory. In a study by Richmond (1985), it was demonstrated that when required to answer a questionnaire based on medical information transmitted at the previous week's grand round, members of the audience who had been present scored significantly higher than those who were absent.

In this article, the authors evaluated the educational value of their grand round topic, post-stroke seizures, on the junior doctors in a medical department of a large teaching hospital in the UK, by using a multiple choice questionnaire (MCQ).

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METHODOLOGY

The authors sent out two MCQs (*Table 1–2*) to all junior doctors 1 week before and 4 days after their grand round. The MCQs, which were designed by the authors, included 13 questions covering part of the grand round. They emphasized practical information, such as incidence, recurrence rate and treatment duration of post-stroke seizures, all of which are relevant for informative communication with patients and their relatives (Silverman et al, 2002; Bladin et al, 2000). One mark was given for a correct choice in each of the 13 questions, resulting in a maximum score of 13.

A comparison was made between pre- and post-grand round scores to assess the educational role of the grand round for the junior doctors. Those who did not attend the round were also

TABLE 1.
Questionnaire on post-stroke seizures sent to junior doctors pre-grand round

Dear Colleagues, I would be grateful if you spend a few minutes answering the following questions on post-stroke seizures for my forthcoming presentation.
Please circle as appropriate
Q 1. Stroke registry data showed that (a) 5–20% (b) 20–40% (c) 40–60% (d) 75% of all individuals with stroke develop subsequent seizures at one stage.
Q 2. Overall incidence is around (a) 9% (b) 29 % (c) 49% (d) 60%.
Q 3. About (a) one fifth (b) one fourth (c) one third (d) half of individuals with post-stroke seizure develop recurrent seizures.
Q 4. Intra-cerebral haemorrhage is associated with the highest incidence of post-stroke epileptic fits (a) Yes (b) No.
Q 5. Transient ischaemic attack is associated with the lowest incidence (a) Yes (b) No.
Q 6. It is called early onset, when an epileptic fit occurs within (a) first 2weeks (b) first 4weeks (c) first 6weeks (d) first 6months of the stroke onset.
Q 7. Around (a) 15% (b) 30% (c) 45% (d) 60% of early onset post-stroke seizures occur within the first 24hours.
Q 8. (a) 10% (b) 30% (c) 60% (d) 90% of early onset post stroke seizures show ictal activity on electroencephalogram.
Q 9. About (a) one fifth (b) one fourth (c) one third (d) half of early onset seizures recur.
Q 10. Late onset seizures have recurrent rate of (a) 10% (b) 30% (c) 60% (d) 90% in both ischaemic and haemorrhagic stroke.
Q 11. About (a) one fifth (b) quarter (c) one third (d) half of cases present with generalized convulsions.
Q 12. Status epilepticus develops in (a) 3% (b) 6% (c) 9% (d) 12% of cases.
Q 13. Early onset seizures need treatment for (a) 1month (b) 6 months (c) 1year (d) minimum of 3years.
Q 14. I am a (a) Junior house officer (b) Senior house officer (SHO) year 1 (c) SHO 2nd year and above (d) Middle grade (associate specialist, staff grade physician, specialist registrar, clinical fellow).
This questionnaire is anonymous (please do not write down your name)

TABLE 2.
Questionnaire on post-stroke seizures sent to junior doctors post-grand round

Dear Colleagues,
You might recall that I did a grand round presentation on post-stroke seizures a few days ago. You may have answered the following questions before the round; however, I would be grateful if you spend a few minutes answering these questions again for the evaluation of this teaching approach. To be able to evaluate the outcome properly, it is important that you do not discuss the answers with your colleagues. This questionnaire is anonymous, so please do not write down your name. Thank you for your cooperation. Please circle as appropriate

Q1. Stroke registry data showed that (a) 5–20% (b) 20–40% (c) 40–60% (d) 75% of all individuals with stroke develop subsequent seizures at one stage.

Q 2. Overall incidence is around (a) 9% (b) 29 % (c) 49% (d) 60%.

Q 3. About (a) one fifth (b) one fourth (c) one third (d) half of individuals with post-stroke seizure develop recurrent seizures.

Q 4. Intra-cerebral haemorrhage is associated with the highest incidence of post-stroke epileptic fits (a) Yes (b) No.

Q 5. Transient ischaemic attack is associated with the lowest incidence (a) Yes (b) No.

Q 6. It is called early onset, when an epileptic fit occurs within (a) first 2weeks (b) first 4weeks (c) first 6weeks (d) first 6months of the stroke onset.

Q 7. Around (a) 15% (b) 30% (c) 45% (d) 60% of early-onset post-stroke seizures occur within the first 24hours.

Q 8. (a) 10% (b) 30% (c) 60% (d) 90% of early onset post-stroke seizures show ictal activity on electroencephalogram.

Q 9. About (a) one fifth (b) one fourth (c) one third (d) half of early-onset seizures recur.

Q 10. Late onset seizures have recurrent rate of (a) 10% (b) 30% (c) 60% (d) 90% in both ischaemic and haemorrhagic stroke.

Q 11. About (a) one fifth (b) quarter (c) one third (d) half of cases present with generalized convulsions.

Q 12. Status epilepticus develops in (a) 3% (b) 6% (c) 9% (d) 12% of cases.

Q 13. Early-onset seizures need treatment for (a) 1month (b) 6months (c) 1year (d) minimum of 3years.

Q 14. I am a (a) Junior house officer (b) Senior house officer (SHO) year 1 (c) SHO 2nd year and above (d) Middle grade (associate specialist, staff grade physician, specialist registrar, clinical fellow)

Q 15. I (a) attended (b) did not attend the grand round presentation on post-stroke seizures.

If you answered the questionnaire before and did not attend the presentation, but actively sought answers or read up the topic, please circle yes here.....Yes/No

asked to answer the questions (for the first time or the second time if they had answered the questions before) as a control group. Those who did not attended the entire round (as a result of being bleeped or arriving late) were grouped as part attenders. One mark was given for each correct response.

RESULTS

There were 42 respondents for the pre-grand round period. The minimum score was 1 and the maximum was 7 out of 13 marks for all grades: junior house officers (JHO), range = 1–7, first year senior house officer (SHO 1), range = 2–7, senior SHO, range = 2–7, middle grades (MG), range = 3–7). There was 1 mark difference for each grade between JHO, SHO and the MG for minimum scores (*Figure 1*).

Thirty-eight junior doctors (JHO, SHO and MG) responded to the post-grand round questionnaire. *Table 1* demonstrates the minimum and maximum scores obtained before and after the grand round on post-stroke seizures by attenders, non-attenders and part-time attenders.

Figure 2 shows the interquartile ranges for each group of all grades, comparing pre- and post-grand round periods. It demonstrates that the scores obtained for grand round non-attenders were almost identical to knowledge scores from the pre-grand round period, while there was a marked increase in factual knowledge in those who attended partly or fully.

Figure 3 shows the comparison between quartile ranges for each grade between pre- and post-grand round periods. Attending the grand round appeared to have a positive effect across the different grades of junior doctors.

DISCUSSION

Pre-grand round data showed maximum scores were the same (7 out of 13) for all grades. A similar pattern was also observed among non-attenders who, as a group, had similar scores to those gained pre-grand round. Grand round attenders scored higher than non-attenders. Part attenders scored less than attenders, but more than non-attenders.

The pattern observed pre-grand round, and between non-attenders among different grades, no longer persisted among grand round attenders (*Figure 3*). An upward trend in knowledge was observed between pre- and post-grand round knowledge of the junior doctors.

Figure 1. Scores for each grade before the grand round on post-stroke seizures. SHO 1 = First year senior house officer.

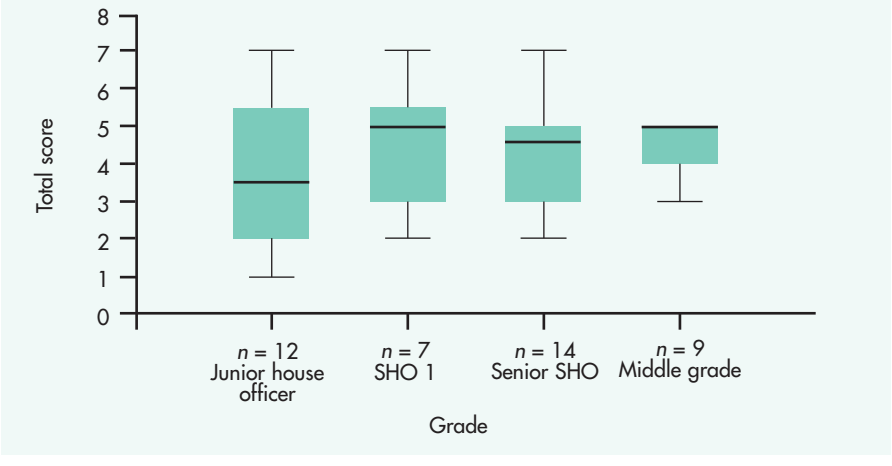


TABLE 1.
Showing frequency distribution of respondents to the questionnaire and their minimum and maximum scores

	Pre-grand Round (*n*=42)	Non-attenders (*n*= 21)	Part-time attenders (*n*=6)	Grand round attenders (*n*=11)
JHO	12	5	3	2
SHO1	7	6	1	5
Senior SHO	14	8	1	1
Middle Grade	9	2	1	3
Minimum Score	1	2	4	4
Maximum Score	7	7	9	12

JHO = Junior house officer, SHO1 = First year senior house officer

Figure 2. Box plots comparing quartile ranges for each group for all grades between pre- and post-grand round periods.

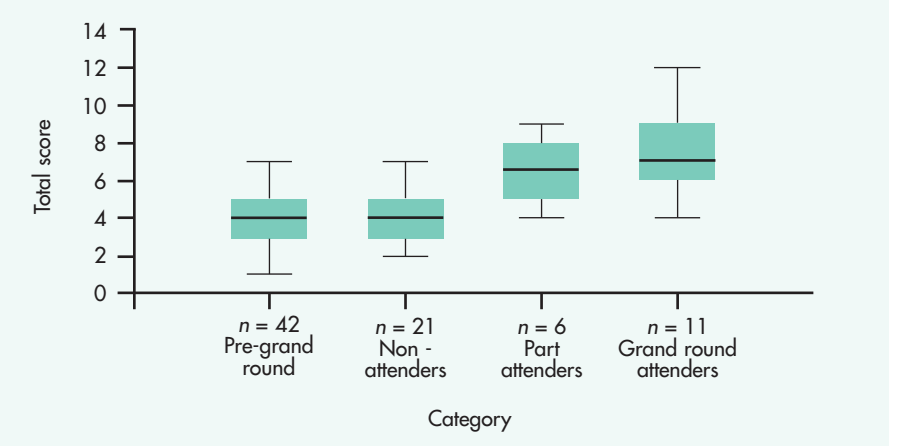
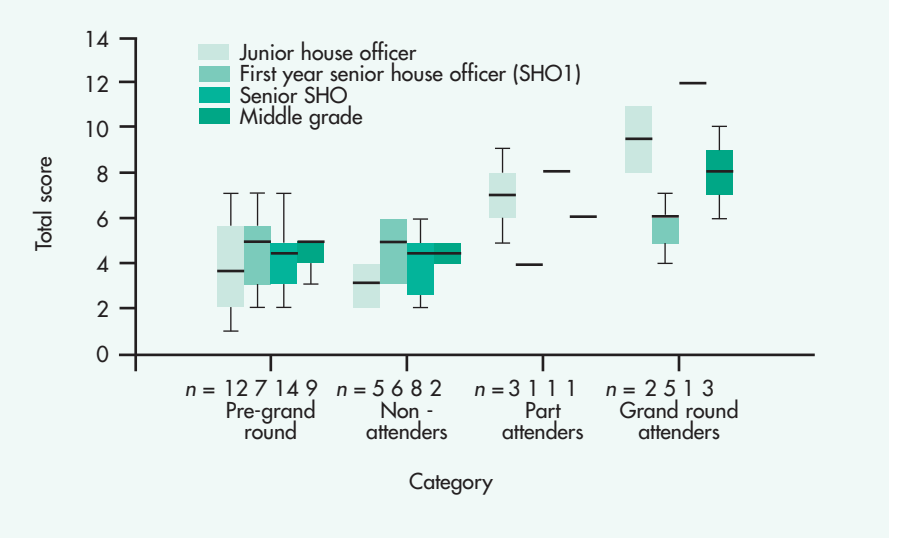


Figure 3. Box plots comparing quartile ranges for each grade between pre- and post-grand round periods.



CONCLUSIONS

These findings confirms that grand rounds have educational value for attenders, and also suggests that uninterrupted attendance should be mandatory, i.e. bleep free, and every effort should be made to encourage juniors to attend.

Whether or not this factual knowledge was retained long term is beyond the scope of this study and future projects should give emphasis on follow-up questionnaires and qualitative studies such as interviews or focus group discussions.

The small sample size used in this study makes it unable us to do statistical analysis. This study involved only a small group of doctors in one hospital and future studies should be set up to confirm the results in other hospitals over different time periods.

The preparation for well-run and well-organized grand round extends over several hours and a number of senior persons may have to be involved. Whether or not the grand rounds are value for money is unclear. This again highlights the need for further research in this area. HM

Conflict of interest: none

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KEY POINTS

- The higher level of knowledge is observed in junior doctors who attended the grand round.
- The knowledge gained in a grand round is related to the time spent attending the grand round.
- Non attendance or interruptions occurring during attendance (being bleeped) could potentially have a detrimental impact on medical education.
- Grand rounds should be uninterrupted and bleep free to create a good learning environment.
- Further evaluation is required in areas such as retention of knowledge gained from attendance and cost effectiveness of this teaching method.