EDITORIAL

Learning Opportunities in Postgraduate Training Programmes

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Abstract:

Postgraduate training programmes need to have critical internal review process. An evidence-based review on morning clinic reports, lectures in postgraduate training programmes, outpatient clinics and journal clubs is presented.

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Keywords:

postgraduate learning, training programmes, active learning, morning reports, lectures, journal clubs, outpatient clinics.

Introduction:

Postgraduate training programmes are aimed to produce professionals competent in their knowledge, skills and attitudes. These programmes need to prepare candidates to meet the demands of real life practices in a continually changing and fast growing medical field. The final goal is clearly to improve patients care. There are multiple teaching methods that can be employed in a training programme. This would help different learning styles for the candidates.(1) However, it should be emphasized that adults learning principles should be followed whenever a learning intervention is expected to be successful.(2-5) Here are examples of these learning principles; active participation of candidates in the learning process, presence of clear aims and objectives for every single activity, relevance of what is to be taught to candidates and the presence of a two way feedback mechanism between candidates and their teachers.

The objective of the article is to present an evidence-based review for some of the common learning interventions undertaken in the postgraduate training programmes. It is hoped to initiate a critical internal review for what we are doing in our local programs.

How to maximize the outcomes in morning report meetings?

Morning report meetings where junior and senior staff meet to discuss cases newly admitted(6) can function as an instructive teaching conference capable of providing a broad coverage of topics.(7) There is no doubt that there are unique educational opportunities in the morning report meeting. It stands out as the only large, formal conference generally used for the evaluation of case management and the performance of medical residents.(7, 8) The

cases discussed in a well designed morning report may be closely comparable to the curricular contents designed by supervising health authorities.(9)

The objectives of the morning report need to be clear to program directors, supervising staff and residents. The majority of residents thought that the main purpose of a morning report should be educational.(6, 10) All surveyed residents in another study ranked the morning report as the most valuable educational activity out of 6 others. Morning reports can provide some control and supervision on night practice of the on-call staff, but they should not be considered as the major tool in this, as suggested by some reports.(11) The practice of listing all admitted cases and reciting few words about each case and stating where the patients are located should have a very limited time in morning reports. The meaning of morning reports in some programmes, unfortunately is not more than listing of cases without any educational discussions around them. Even if there were discussions, these may not be clinically relevant to the majority of residents. In addition, these discussions might be conducted in a threatening environment, where the focus of residents would be on the fear of poor performance rather than enjoying the challenge of learning.

The most frequent instructional method used during morning reports were case-based presentation, followed by discussion.(6, 8) In a recently published report about morning reports (11), the authors described the evolution of their experience in morning reports with three different formats. The introduction of formal, didactic presentations in morning reports was not preferred by attendees. They suggested tips for establishing and monitoring morning reports.(11)

However, we describe herewith an approach on how to conduct morning reports in internal medicine.(Figure 1) The coordinators should be either an attending physician or a distinguished senior resident in her/his final year of training. This is consistent with what is described in the literature.(8) The most important features of coordinators and physicians attending morning reports, as rated by residents in one report were excellent general medical knowledge, an ability to ask effective questions, and good interpersonal skills.(12) The cases

for presentation should be selected by residents. It was concluded in one study that residents do an exceptional job of selecting difficult diagnostic cases for discussion at morning report.(13) The way of distribution of seats where consultants sit in front and residents sit at the back row should be discouraged. It is advisable to have all attendees sitting in a circle, where interactions are encouraged. Presence of food and drinks during morning report tend to enhance interactions as well.(6, 11, 14) The coordinator should use the board to write pertinent information from presentations. The presentation itself should be concise and it is better to be presented from copied or printed notes to avoid missing or delivering inaccurate information. They should not take more than 5 minutes.(11) The practice of overwhelming the post-call resident(s) with detailed questions exposing their lack of knowledge in an ironic way should be strongly discouraged. This creates a threatening environment and prohibits learning. The coordinator may run the morning report in a stepwise approach. After the history of the case has been presented, there should be a pause and a question raised on further relevant information needed to be known. A brief discussion is conducted aimed to improve history taking skills. Then before proceeding to physical examination findings, another question is raised by the coordinator about what physical findings based on history presented should be looked for. After physical findings presentation, a senior resident is asked to summarize the case and develop a problem list with differential diagnosis and management plan. An open discussion might be conducted now on whether any modifications should be undertaken in the plan described. Then investigations are presented and another question is raised on the interpretation of these investigations and if the plan will change or not. A senior resident is asked again to discuss the therapeutic interventions that she/he will consider in this case. Finally, the presenter (who should be from the post-call team) is asked to present the rationale of what was done to the patient. The depth of discussions should be based on the number of residents present from each level. In general, senior residents were the majority who attended morning reports in some centres.(14) These types of questions in a stepwise approach are advocated in order to stimulate higher level of mental functions like thinking, analysis and synthesis of data. This is to avoid the exchange of low-level factual information not optimal for promoting problem-solving skills.(15) The

closing remarks of the morning report, in the model described here, should include a summary of learned points presented by one of the residents. It should also include the formulation of a clinical question with a direct relation to the case presented that needs to be searched for in the literature. The result of the search work can be presented briefly in the next day. The presence of attending physicians should help residents to ask effective and relevant questions. A similar approach to produce clinical questions by residents to be discussed in teaching rounds was described in the literature.(16) Updates, if any, on previous cases discussed in morning reports meetings should be presented. This is to establish and create an overall understanding of the natural history of certain presentations and build up clinical experience. Up to 70% of cases discussed in morning reports without a clear diagnosis tend to have a different one at time of discharge in one center.(17)

This suggested format for presentation in morning report meetings, needs proper validation. The author has implemented it in one centre and received overall satisfaction from residents and attending staff.

There are other events which might happen in morning reports like administrative issues, and reporting drug adverse events.(6) However, these should not interfere with the main educational objective.

The field of morning reports in general requires more research. There is a clear lack of studies to document the effectiveness of morning report.(6) On the national level, we need to know how morning reports are conducted in our training programmes, what format is followed, the level of satisfaction by our residents and measures for patients' outcome or other measures to test effectiveness.

Are we still using lectures?

Lectures remain the most common form of teaching methods used in the medical field. Ironically, lectures were defined by some experts as "a process by which the notes of a teacher become the notes of a student without passing through the minds of either".(18)

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There is an early documentation in the literature of learners dissatisfaction with non-challenging lectures.(19) It was shown, since 1978 that student concentration, in lectures, reaches its maximum in 10-15 min, and then drops steadily.(20) Large group formats tend to encourage passive learning.(21) What is required to be developed in postgraduate education is active participation in the learning process with residents taking full responsibility for their own education. Lectures should not be regarded as an effective way of teaching skills, changing attitudes, or encouraging higher order thinking.(21) All these are considered essential skills for training doctors. Despite the evidence and experience that developed over time, lectures still predominate all other teaching methods in our local training programmes.

It has been shown that lecture-based and problem-based learning formats in postgraduate education were both effective. However, problem-based programs appeared to be more effective than the lecture-based programs in improving performance.(22) It can be argued that outcome measures used in this study were based on self reporting, which might have had interfered with results. Another aspect that was not a measure in the study is the clinical reasoning and problem-solving skills. These skills are shown to be gained in problem-based formats.(23, 24) There are reports of successful introduction of a problem-based learning format to postgraduate residents.(25)

A good teacher can function in a multidirectional ways for the sake of the effectiveness. He / she is more than a lecturer.(26) There are multiple efforts developed by experts in medical education directed to educators to help them to maximize learning outcomes from lectures.(21, 27) These guidelines encourage the principles of integrating and actively involving learners in the delivery process of lectures.

An approach to develop an effective way of delivering lectures is to produce study guides that direct learners to the specified objectives.(28, 29) There is a published example in a peer-reviewed medical education resource on a lecture presented with a study guide

developed are based on clinical cases.(30) Another example for a course in peri-operative medicine for postgraduate trainees based on clinical cases is available.(31)

Programme directors and participants in residents' education in our local training programs need to consider newer teaching methodologies away from didactic lectures. Without interacting with learners in any learning process, programme would hardly be successful. A metanalysis on continuous medical education (CME) activities concluded that didactic sessions do not appear to be effective in changing physician performance.(32) Only interactive CME sessions that can effect change in professional practice and, on occasion, health care outcome.(32)

Training in out-patient setting:

There is a move towards community-based and community-oriented medical education.(33) patients admitted to hospitals represent a low proportion of the actual number of sick people in the community. Training future doctors should concentrate on what the doctor will face in his/her real practice. Therefore, there has to be greater emphasis on outpatient training for our residents. Unfortunately, the focus of some of our local training programmes is to provide medical coverage for their wards without paying attention to the needs of our residents. This is improved by specifying adequate training time for trainees in outpatient settings. There are suggested tips, published in the literature for programmes willing to incorporate more training in outpatient settings, including issues like: make training in the ambulatory setting a priority, and how to teach and evaluate in the examination room. (34)

On the other hand, teaching in outpatient clinics is still less well structured compared with hospital based teaching. Teaching ward rounds are a longstanding, familiar phenomenon in the hospital, but teaching clinics are at beginning.(35) A review of empirical studies focusing on educational research conducted in ambulatory settings concluded that there are many gaps in our knowledge of effective clinical teaching practices and of the learning environment.(36) One suggested approach to structure teaching in outpatient

setting is to divide the teaching process into steps. In Step 1 trainees assess patients and review their cases with two supervisors. Step 2 entails each trainee presents a brief summary of each case to his/her colleagues and supervisors for discussion and analysis of learning issues. This should happen at the end of the clinic. In Step 3 each trainee conducts a literature search of the learning issues identified in Step 2. Step 4 occurs in the days following the clinic and entails a seminar discussion of the literature search results with colleagues.(37)

A comprehensive review of the literature on education in out-patient settings for medical undergraduates and graduates reported it to be characterized by variability, unpredictability, immediacy, and lack of continuity with comparatively few cases discussed or examined by the attending physician; furthermore, case discussions were short, involved little teaching and provided virtually no feedback.(38) The way to achieve effective teaching in the outpatient settings is simply to try to avoid these obstacles of learning. Continuity of care, for example was valued by internal medicine residents in a descriptive study.(39) Having an adequate number and variety of patients while being supervised by enthusiastic preceptors who give feedback and are willing to discuss their reasoning processes and delegate responsibility are site characteristics and preceptor behaviors valued by almost all learners in another study.(40)

Faculty development in this regard is essential to enhance quality of teaching in outpatient settings.(34) There are good resources (41) that might be used as a reference for this activity.

The role of journal clubs:

Journal clubs are now considered as an essential component of any training program. It is included in almost all training programs in different specialties.(42) There is no ideal format for the conduction of a journal club, but the most common format as outlined in the literature is for a club that is conducted once per month, where 2-3 original research articles are discussed, in the presence of distinguished leaders and a biostatician may be present as

well.(42) Articles should be selected by residents(43) and they should be related to cases and problems originating from their own practice. They should be distributed in advance to all participants in the club, so that everybody will have a chance to go over the studies. It is a strange practice for journal clubs conducted in some programs where most of the participants are only aware of the studies at the time of the club. Presentations should be short and concise. Residents critically appraising the studies may use checklists for evaluating different studies on diagnosis or on therapy. The publication of the Users' Guides to the Medical Literature series(now published in a book(44)) has encouraged the implementation of journal clubs devoted to evidence-based medicine in many postgraduate training programs.(45) This is to avoid boredom from listening and following a lengthy presentation, it also leaves time for discussions on how to apply the evidence in the practice. Here the presence of experts is really needed.

There are certain characteristics for journal clubs with high attendance and longevity, these are: mandatory attendance, availability of food, and perceived importance by the program director.(42)

There is a plenty of evidence in the literature that addresses the learning achieved in journal clubs. The two most important objectives achieved in one study among community medicine residents with strict criteria for conducting a weekly journal club were acquisition of critical appraisal skills and keeping up with current literature.(43) In a systematic review of all studies on journal clubs to evaluate its effectiveness, there was a statistically significant improvement in epidemiology and biostatistics knowledge, change in reading habits, an increase use of medical literature. There was, however, a trend to improve the critical appraisal skills. (45) There is, therefore, no excuse for some local training program not to include such learning activity for their residents.

There are other issues not addressed in this article which have a great impact on our training programs. Examples include: clinical teaching, what techniques are used, and are our staff capable of doing it effectively? Is there a defined structure for training programs to

follow? Is there a quality assurance program? Should we still include a long case format in our certifying board examinations? What are the techniques used to construct written exams? Are our exams valid and reliable?

Conclusion

Morning reports should emphasize active participation of all residents without humiliation. A suggested approach is presented. Lectures do not enhance higher order thinking. Problem-based format should be used. Residents should spend more time in outpatient clinics with objective and structured training. Journal clubs are essential component of any program. Certain characteristics that make journal clubs effective should be followed. It is clearly evident that active participation of learners in any learning intervention is a prerequisite for success and effectiveness. Critical internal review of all our learning activities is a sign of improvement for any training program. This should be conducted and based on the best evidence available in medical education.

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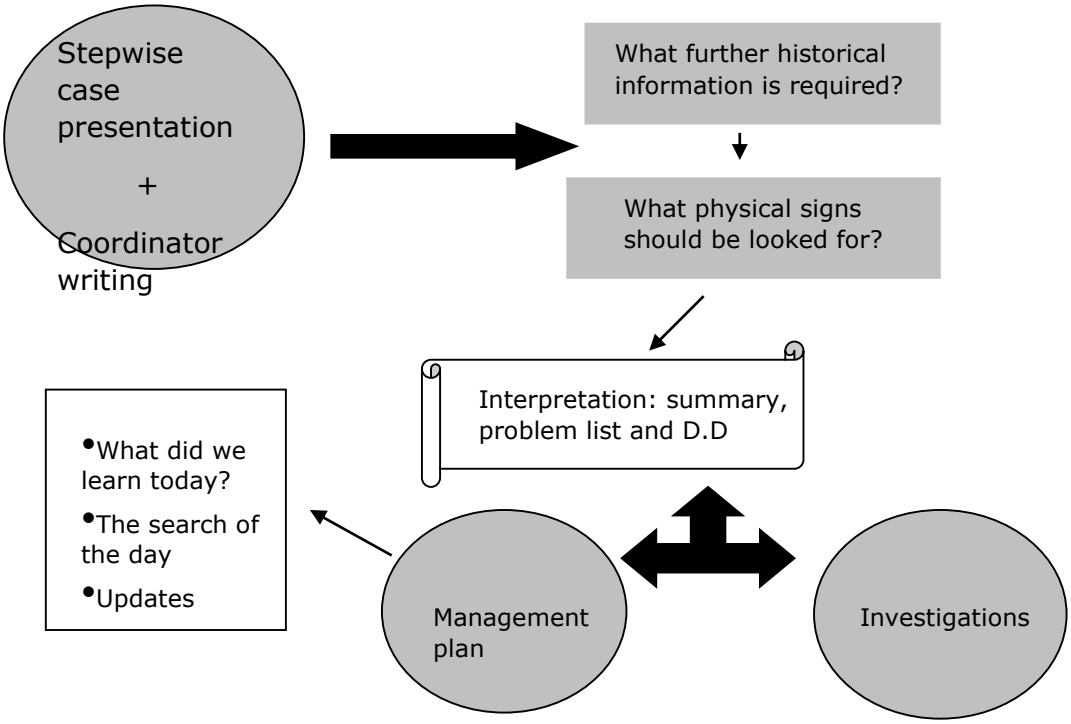

Figure 1: A suggested style for morning report. (See text for details)

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