Peer Supervision in Postgraduate Education – How to Create a Dynamic and Sustainable Environment for Students and Supervisors Combining Clinical Duties and Medical Research

Pedagogiskt docenturarbete

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Peer supervision in postgraduate education – How to create a dynamic and sustainable environment for students and supervisors combining clinical duties and medical research.

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Background

In a context of rapidly developing treatments and techniques in health care, the value of supervisors who are able to combine the clinical day-to-day duties with supervision of research students at various educational levels remains high. In Sweden, the proportion of physicians with completed PhD exams has decreased from 20% to 17% over the last 15 years (1). To counter this negative trend, universities and health care providers aim to create environments and positions where active research activities including PhD student supervision may be combined with clinical duties, the latter being reflected in developmental plans such as the “Från student till docent” at Medical Faculty, Linköping University (2).

Needless to say, the obstacles for successful academic supervision in the clinically busy environment might seem unresolvable; Incremental clinical work-load, demands from patients and co-workers, and superiors and managers with short term production of health care as main focus (3).

Several key determinants for PhD student supervision have been previously identified. In a large cross-sectional study covering about 400 PhD students in various disciplines and at more than 60 universities around the world, the supportiveness of the supervisor and the supportiveness and academic quality of the institution were confirmed as main determinants for PhD students’ satisfaction while, notably, the academic quality of the supervisor per se was not (4). This points to the cruciality of encouraging supervisors acting in a both supportive and academically excellent environment to form an optimal team around the PhD student.

In medical undergraduate education that, self-evidently, is dependent on teachers and supervisors with updated experiences from the clinical sector, several universities have adopted ‘peer teaching’ as a complementary methodology to traditional teaching, often with positive outcomes for both the ‘peer teacher’ and the ‘peer taught student’ (5).

From other areas of research, various forms of ‘peer supervision’ have been applied at the postgraduate (i.e. PhD student) level. Beside being a pragmatic way to reduce the workload for the formal supervisor, there are positive experiences of mutual learning, research training, feedback, and psychosocial support from such supervisory models (6).
Personal experiences

My personal experience is that a combination of intense clinical activity and academic strive is indeed challenging but still possible. Though, the supervisor and the supervisees need realistic expectations and a common pragmatic structure that is able to ‘buffer’ temporary absence or conflicting (clinical or other) demands (from the supervisor’s and/or the supervisee’s point of view) during the course of the project.

Based on previous experiences from my own PhD education at Linköping University, my postdoc at University of Liverpool, UK, and my years as junior and specialist training doctor, I’ve learnt that high quality supervision, be it academic or clinical, may occur at expected and unexpected moments, and not always necessarily with any senior supervisor present. In an atmosphere where all questions are ‘allowed’ and critical thinking is encouraged, the sharing of knowledge and experience in a group of less experienced ‘juniors’ may create synergisms and form the base for critical steps forward even without any senior experienced colleague directly involved.

Building a peer supervision friendly environment

Since my return from my postdoc 2015, I have combined my clinical career with academic proceedings. Thanks to the ‘Från student till docent’ program I currently have a combined RÖ/LiU employment with 70% clinical and 30% academic duties. This arrangement has enabled an opportunity to establish my own research team and to initiate and complete several supervisory missions.

My research team focuses on clinical advances and the development of biomarkers for personalized treatments of pancreatic cancer. The clear aim and vision for my team is to combine the research undertaken with clinically relevant applications in a translational atmosphere; optimally, clinically relevant questions should inspire research projects which aim to answer those questions and, in a ‘loop back’, eventually provide answers that are applicable to the real life patients.

In a panel of research projects, I have involved several PhD students, medical school students, ST-doctors and others. Together with other team members and mentors, I have established a supervisory model including peer-supervision that orientates towards pragmatism, flexibility and final outcomes, rather than dogmatic thoughts on ‘the perfect’ way of supervision. In the last few years, this has paid off in several publications and (at least I hope so) happy, independent, and skilled students eager to take further steps on the academic path.

My model of supervision is characterized by several principles and, nota bene, the peer-supervision approach does not mean that I am able to ‘step down’. On the contrary, it is essential that I fulfill my part of the deal and rather ‘step up’ at certain key moments in order to enable the best circumstances for peer supervision in the meantime. Some of the key principles are:
1) A clear and realistic research plan. If the supervisee is a medical student, the project should be doable in one term and still deliver adequate amount of reliable results. If the supervisee is a PhD student, the projects will be more comprehensive, but still doable and with clearly assessable steps to ensure that the progress is sufficient over the years.

2) A common discussion with the supervisee about expectations, goals, worries etc before the project starts. A common basis how the work should be done and how the supervision should take place should be formed. The supervisor should explain the rationale and key components of the peer-supervision approach, that will complement (but not replace) the supervisor/student interaction. Any discrepancies regarding the goal and/or structure of the supervision between the supervisor and supervisee need careful consideration and resolution to provide a long term sustainable environment for both the supervisor and the supervisee (7).

3) Honesty about conflicting interests. ‘I do a lot of clinical work (and other duties); sometimes I won’t be able to respond immediately to questions or read through emails or documents – however I will always come back and assist you as quick as possible.’ In the beginning of a defined project, my experience is that regular ‘meetings’ (could be just 5 minutes) once or several times a week is necessary, to ensure that the student / PhD student is on track.

4) Creating a supervisory ‘climate’ and facilitate student to student supervision. One of my most successful ‘operative academic teams’ so far is a small group of one PhD student, one ST doctor, and one medical student. They all had their unique project, but with a lot of overlap in methodology, data management, analysis, interpretation, and presentation/publication. In the beginning, I was always leading the individual and their combined supervisory sessions. Later on, they were able to solve several difficult matters with minimal input from my perspective. The three co-supervisees contributed with different skills and experiences and supervised each other on structured data collection, statistics, clinical experiences, academic writing etc. Under the last two years, this ‘mini team’ has published three articles, and several additional papers are under construction.

5) Creating an air of long term trust. The supervisee should be fully assured that the supervisor will not permanently ‘disappear’ or abandon the project, even if there might be shorter periods when the supervisor doesn’t have the opportunity to offer immediate support. By working in close adjacency with other students the student will not be on his/her own even though the formal supervisor may be temporarily unavailable.

6) Creating a ‘team spirit’. Medical (if any) research is rarely the fruit of one single scientist coming up with amazing findings. Working in a team, with multiple possible supervisor to student, student to student, and even supervisor to supervisor interactions creates a dynamic climate where the sum of all ideas and skills becomes larger than the added parts.
Discussion

While the presence of clinically active research supervisors is highly important in today’s rapidly evolving health care, the competing interests of clinical duties and research supervision might be seen as an impossible combination of workload for any ‘normal’ person. By introducing a peer supervisory model, this dilemma may be successfully resolved, with additional positive outcomes in terms of improved scientific quality and quantity as well as improved occupational health and well being for both the formal supervisor and the supervisees. Peer supervision has been successfully introduced in undergraduate medical education (5) and, according to my experiences and other examples in the literature, a similar model of peer supervision or peer mentoring including key elements for scientific and personal support such as effective communication, feedback and project planning may be successfully adopted at the PhD level as well (8). In the best of outcomes, the student to student supervision encourages the internal (and external) motivation of the individual students, speeds up the learning and scientific progress of the participating individuals, and provides a synergistic model whereby ‘1 + 1’ is not 2 but 3. The role of the formal supervisor is still critical; without the presence of close individual and/or group supervisory sessions including the establishment of a clear structure and frames as well as realistic expectations ahead of the project, the following ‘peer supervision’ may create more confusion and even conflicts within the team. It is equally important that the formal supervisor surveils the project from ‘adequate distance’, and interferes as soon as the supervisees are unable to resolve the questions themselves. Additionally, the main supervisor must not abandon the general steering of the project or the provision of scientific and occupational support whenever needed.

Conclusion:

Peer supervision is a potentially powerful complement to traditional supervision in clinically orientated medical research. Beside being a method for relieving the workload for a clinically active supervisor, it might improve the scientific and psychosocial environment for the student, and lead to enhanced scientific quality and quantity.

References