

Can increased cooperation between research groups improve PhD studies?

Background

PhD students are important for the research performed at clinical units. Much of the research work is done by PhD students and the mere existence of such is also stimulating for the research environment. Clinical as well as research questions and ideas come from discussion about the research projects and with a critical mass of PhD students the environment for research can flourish.

During 2011-2015 two surgeons working at the surgical department in Linköping finished their PhD and defended their thesis. At the time of writing, four PhD students that are either specialists in surgery or doing surgical specialization in the surgical department in Linköping are registered PhD students and have 4 different main supervisors.

The four PhD students are working with different projects within different fields of surgical science and all have different persons as supervisors. The different nature of the research fields makes collaboration between these students unnatural in the current settings. In this situation the PhD student may feel alone and a supportive network could be of value (Brown P 2013). This suggestion has support in the literature as isolation and feeling lack of support is a well-known factor affecting many PhD students (Ali A, Kohun F 2006, Ali A, Kohun F 2007). This has been shown to hold especially true for international students as well as students engaged in online education (Erichsen EA, Bolliger DU 2011).

The aim of this paper is to suggest a more cooperative system within the surgical department in Linköping in order to stimulate and support PhD students more than the present system does. The three main gains expected to result from this are:

- Increased well-being of the PhD students that may contribute to completion of the studies.
- The possibility for students to indirectly be exposed to different supervision styles.
- Preparation for the part of the PhD studies that relates to communication about research and general research knowledge.

PhD students and supervisors were interviewed about the possible gain of more formal cooperation as well as potential negative side effects. Support for the idea from the literature is presented as well.

The proposal

A practical way to accomplish the improvements that can be expected from a cohort model despite the difference in research focus within the surgical clinic in Linköping is to start regular research meetings including all surgeons active as PhD students and as many of their supervisors as possible at each meeting.

Reflection

A cohort model means that a cohort of students progresses through the education simultaneously, typically this is applied to a course part in the beginning of the doctoral studies and after finishing that part the students proceed to individual studies (Bista K, Cox DW 2014).

While the PhD students at the surgical department in Linköping may of course have some informal cooperation no formal cooperation between these research groups exists. Each student exists within a research group with focus on the actual research field and has therefore the supervision formally demanded by the medical faculty. In addition to the abovementioned clinical PhD students, there are numerous others from different disciplines that could be included in a larger research context. Adding such diversity to research cooperation could be beneficial through exchange of both knowledge and methods while there is at the same time risk that to large group would suffer from inactivity at times. On the other hand larger group would decrease the risk for meetings being inactive because of loss of participants.

The broad support and knowledge network that can be expected to result from more wide cooperation with others is currently largely missing. Besides, reducing isolation and lack of support reduced completion rates of doctoral studies may motivate implementation of cohort models (Lewis et al. 2010).

While implementation of full cohort model with student cohort going through steps of the education together would be impractical given the diversity of research areas at the unit in question it can be assumed that some elements of such model would be beneficial for the PhD students.

The group support already present for the PhD students is mainly provided by senior researchers and supervisors and may therefore be viewed in the context of learning models such as the master-apprentice or advisor-student models (Yeatman A 1995). While this has proved to be somewhat effective method of higher education other elements of cohort models have further improved the results (Burnett PC 1999, Bista K, Cox DW 2014). Looking at the available expertise at the surgical clinic in Linköping it is clear that a broad knowledge ranging from the thyroids and parathyroids to the rectum is available (Gimm O et al. 2012, Flooden H et al. 2014). It is equally clear that the study methods used by the research groups at the department are different, and therefore the expertise available varies greatly.

Based on this it may be assumed that a common research group for the surgical clinic could serve as an added resource for the PhD students. Among the dimensions identified in cohort models are; common mission, collaboration, social interaction, group and individual learning and interaction with professors (Bista K, Cox DW 2014). All these dimensions can be expected to be improved by a common group extending beyond the current research groups. In addition to improving the network this could serve as a means to better apply to the rules for general research knowledge, regarding journal clubs, posted by Linköping University (Linköpings universitet medicinska fakulteten 2016). One of the important aspects of PhD studies that is difficult to adequately address in a direct supervision between PhD student and supervisor is the ability to communicate research. This part could be improved by regular meetings in larger group.

Introducing further meetings for already hard working PhD students is of course accompanied with the risk of increased workload that is known to be one of the main factors contributing to drop out from graduate studies (Vergidis D, Panagiotakopoulos C 2002). Therefore it is of great importance to do this in a balanced way and fully acknowledging other parts of the workload. However it has to be kept in mind that before entering PhD studies, the clinic verifies that the PhD student will have the time needed to complete the studies. Given the amount of research time typically allocated to each PhD student at the surgical department in Linköping the meetings proposed in this paper can be established within the current boundaries. A successful introduction of this concept could improve the perceived student to student as well as student to teacher relationship and both these factors have been shown to be more related to perceived workload than actual working hours (Kember D 2004, Kember D, Leung DYP 2006).

Student and supervisor interview

Three current PhD students at different levels in the studies and their supervisors were separately interviewed regarding the proposal above. The PhD students reacted positively to the proposal and thought this could improve their education by broadening knowledge, methodology and interpretations of results. Especially it was seen as positive to get input from researchers not too familiar with the specific research area. In addition, improved group dynamic was identified as possible gain as was reduced loneliness in the PhD studies. The main downsides to the proposal were added work load and the risk that students might not prioritize preparing for the meetings and therefor the meetings would be ineffective. This notion makes it even more important to get full acceptancy for this proposal from the director of the department as each PhD students contract allows. From the supervisors, improving journal club was mentioned as important aspect likely to be achieved with this proposal. Neither PhD students nor supervisors identified reluctance to share knowledge or unhealthy competition as possible risks associated with this proposal.

Practical application

The meetings should be a combination of working meetings around each PhD student's project with input from other students and supervisors and journal club with dissection of interesting literature from all the areas covered by participating PhD students. The meetings focusing on PhD student's projects will serve as augmentation of the current supervision with focus on the abovementioned dimensions expected to be improved by the model. The meetings arranged as journal clubs will improve the adherence to LiU's regulations for PhD students as well as widening the general research education (Linköpings universitet medicinska fakulteten 2016).

These meetings should be obligatory for the students and serve as a platform for broadening of the research network in addition to improving the general knowledge required for a PhD degree. A practical way to organize the meetings is to rotate the responsibility for the program among the participating PhD students.

In order to find the optimal balance between additional meetings in the clinically active PhD students already crowded scheme and the expected improvements of this program it may be adequate to aim for one occasion each month. Another possible problem is the risk that the students are reluctant to too share knowledge and an unhealthy competition will start. This is however unlikely given the diversity of research areas involved and was also not identified as a risk by neither current students nor supervisors.

As mentioned above there are numerous PhD students from disciplines other than surgery working with supervisors from the surgical unit. It could be a future improvement to extend the group to these individuals as well, as this is likely to add to the diversity of methodology and supervision as well as research experience in general. It is however probably wise to start the project on a smaller scale that is more likely to succeed initially. When it comes to stimulating young PhDs to continued research the meetings could serve as platform for this without risking to large group as the number of those individuals is small.

The role of the supervisors as well as associate professors and professors at the department without current supervision will be to stimulate the PhD students' discussions as well as to serve as resources for knowledge about research fields and research methods. Supervisors may also learn from each other as supervision styles are likely to differ. Additionally this model may further stimulate those currently not engaged in supervision to take on this challenging but rewarding role. Having post doc research discussed constructively in such a forum may also serve as role-model for PhD students. In the research environment today this could be of equal importance for the future of surgical research in Linköping.

Conclusion

Introducing monthly open meetings for clinical PhD students at the surgical department in Linköping as well as their supervisors may improve both general wellbeing of the students and the theoretical and methodological work. Further on this model might be extended to and applied to PhD students from other disciplines as well. Possible gain from this model identified by current PhD students and supervisors has support in the literature.

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