“There’s a Lot of Support”: Junior Doctors’ Experiences of the Medical Internship

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Abstract

Background: It is known that the transition from medical school to clinical work can be stressful. In some countries, an introductory service bridges the gap, introducing the doctor-to-be to clinical work. However, there is a lack of scientific knowledge about whether these introductory services serve their purpose as justifiable introductions. To address the gap, this paper aimed to explore experiences that junior doctors hold of the medical internship.

Methods: Using a qualitative description approach, data was collected through twelve individual in-depth interviews with volunteering medical interns from three different hospital sites in Sweden. Data were verbatim transcribed and analysed by qualitative content analysis, generating categories and themes.

Results: Four main themes were identified in our data. The interns felt increasingly comfortable as doctors ('finding one's feet') through taking responsibility for patients while receiving necessary help and assistance ('a doctor with support'). Although appreciative of getting an overview of the healthcare organisation ('healthcare sightseeing'), interns were exhausted by repeatedly changing workplaces and felt stuck in a rigid framework ('stuck at the zoo').

Conclusions: This study showed that the transition from medical student to clinical doctor does not necessarily have to be characterised by stress and mental exhaustion but can, with extensive support, provide a fruitful opportunity for interns to grow into their roles as doctors.

Introduction

The transition from being a medical student to working as a medical doctor is known to be an intense and stressful phase in a medical career [1–3]. International studies have shown worrying levels of burnout among junior doctors and report that they experience the transition as physically, mentally and emotionally exhausting [4]. Additionally, newly qualified doctors have expressed not feeling prepared to start clinical work [5]. Previous research has also established that experience a lack of protected study time and formal educational curriculum [2] and that junior doctors experience tension between learning and working in their workplace [6].

In several countries, a postgraduate internship or mandatory service bridges the gap between medical school and residency [7]. In Sweden, this introductory service, termed a medical internship, serves the purpose of introducing the doctor-to-be to clinical work by allowing the medical intern to practice and develop knowledge and experiences based on what was gained during medical school [8]. A yearly national evaluation investigates interns’ satisfaction with the medical internship in Sweden; according to this survey, the interns express generally high satisfaction [9]. However, a scholarly exploration of interns’ experiences has not yet been conducted. This implies a lack of scientific knowledge about whether the medical internship, from the intern's point of view, serves its purpose as a suitable introduction to clinical work. Additionally, it would be of value to investigate if the Swedish context echo the findings from international studies. Consequently, the aim of this study was to explore junior doctors’ experiences of the medical internship.

Medical internship in Sweden

In Sweden, graduation from the five-and-a-half-year medical programme is followed by a minimum of one-and-a-half years of postgraduate introductory service: the medical internship (in Swedish, ‘allmäntjänstgöring’ or ‘AT’). The medical internship is regulated by the National Board of Health and Welfare, according to which the internship should provide prerequisites for the subsequent postgraduate residency. Although regulated nationally, the internship is managed at hospital level. This means that the hospitals are responsible for the educational content during the internship as well as to assess that each intern fulfils the national requirements to pass the internship in order to become a licensed doctor. The internship includes four to six months of internal medicine, four to six months of surgery and orthopaedics, three months of psychiatry and six months of primary healthcare. The rotation in primary healthcare must be the very last rotation of...
the internship, whereas the order of the other rotations can vary. Although having a dual focus on clinical work and formal education, the majority of the internship is taking place in a clinical setting where interns work as medical doctors. Interns are included in the regular schedule of each workplace and expected to contribute to the daily work of a junior doctor, including tasks such as; admitting and discharging patients, performing physical examinations, prescribing medicine, writing referrals and patient notes, consulting specialists, and participating in ward rounds. Although varying between hospitals, approximately half a day per week is dedicated to formal learning including lectures, presentations, seminars and literature readings. Additionally, interns should have a designated mentor with access to structured supervision and clinical feedback on a regular basis. Publicly funded hospitals are responsible for providing fully salaried positions for medical interns and approximately 60 hospitals, i.e. the majority of all hospitals in Sweden [10], offer internship positions. Due to a lack of available positions, there is currently an average waiting time of 10.6 months from graduation until the start of the internship [11]. During this time, most graduates work as junior doctors with clinical supervision but generally without educational content, such as courses, structured supervision, lectures, etc.

Methods

Design

In line with the interpretivist paradigm, a qualitative research approach was applied [12, 13]. We employed a qualitative description design as we sought to describe medical interns’ experiences in language familiar to them [14]. This design is particularly useful when the aim is to study individual experiences, since it allows the researcher to stay close to the data in order to produce a straight description of the phenomenon. Importantly, this does not equal an absence of interpretation, as no data speaks for itself [15].

Participants

Medical interns from two regional hospitals and one university hospital were recruited for the study. First, approval to invite medical interns to participate was received from the employer (head of medical interns). Then, invitations to participate were sent via email to medical interns currently in their last six months of internship, i.e. during their primary care rotation. The first ones to respond were included in the study, and an interview during working hours was scheduled. Twelve medical interns were included, of whom seven were women. Ages ranged from 27 to 51 (median 29), and all but two had received their undergraduate training in Sweden. Gender, age and site of undergraduate training of our participants are on an average coherent with medical interns in Sweden in general [16, 17].

Data collection

Individual and semi-structured interviews were performed by ML, shaped by an interview guide based on the aim of the study and a literature search performed when initiating the research project [18]. Opening questions (e.g., What do you do as a medical intern? How have you perceived the role you have been given in the clinical workplace?) were followed by probing questions (e.g., Can you explain what you mean by that?). Interviews were audio-recorded and, in most cases, held at the interviewee’s workplace. Two interviews were held over telephone due to geographical constraints. Interviews lasted between 34 and 49 minutes and were transcribed verbatim by YC.

Data analysis

Data was subject to a qualitative content analysis [19]. An inductive stance was taken; that is, the analysis was data-driven rather than based on a pre-existing theory or framework [20]. Interview transcripts were read through for familiarisation, followed by a systematic highlighting of quotes corresponding to the scientific issue. Through this, a set of meaning units was created and in turn condensed while preserving their essence. Condensed meaning units with related content were then collated into categories. Categories were in turn grouped under higher-order headings to create overarching themes. Each theme and its categories were continuously verified in relation to the data, in order to assure a
coherent pattern within each theme as well as to double-check that identified quotes were not decontextualised. ML and YC performed all steps of the analysis in parallel, verifying categories and themes regularly with all members of the research team. The goal of these discussions was not to reach strict consensus, but to allow us to look at the data from multiple perspectives.

**Results**

This paper draws upon the experiences of twelve medical interns at the end of their internship. Four major themes were identified, each theme containing a number of categories. Themes were ‘finding one’s feet’; ‘a doctor with support’; ‘healthcare sightseeing’; and ‘stuck at the zoo’. Themes and corresponding categories are outlined in Table 1.

| Theme                  | Category                                               |
|------------------------|--------------------------------------------------------|
| Finding one’s feet     | Settling into the role                                 |
|                        | An increased depth in medical knowledge                |
|                        | Producing healthcare                                   |
|                        | A new focus                                            |
|                        | Becoming a decision maker                              |
|                        | Responsibility motivates learning                      |
|                        | The internship can be hard                             |
| A doctor with support  | A safe structure                                       |
|                        | Lower expectations and demands                         |
|                        | Allowed to ask                                         |
|                        | The internship equals education                        |
|                        | The support can be limiting                            |
| Healthcare sightseeing | Grasping the organisation                              |
|                        | A varying role                                         |
|                        | An anonymous guest worker                               |
|                        | Always new at work                                     |
| Stuck at the zoo       | It’s homey and agreeable, and a luxury                  |
|                        | Life turns inflexible                                  |
|                        | Having a low rank                                      |
|                        | It is what you make of it                              |
|                        | In charge of one’s own development                     |
|                        | Ready to move on                                       |

**Table 1**

Themes and corresponding categories.

**Theme 1: Finding one’s feet**
The interns reported that they during the internship started settling into their roles. To act as a doctor became less intimidating, and interns expressed feeling increasingly comfortable and confident taking on a day’s work. Although they expressed that they learned from ‘getting the job done’ and that they understood that someone who becomes a doctor has to know how to write referrals, admit and discharge patients and take care of administrative tasks, the interns struggled to find a balance between ‘producing healthcare’ and making sure they received appropriate education. They repeatedly reported tensions between working and learning:

‘One writes discharge notes (epicrisis), and that is great for everyone else, but myself, I don’t learn anything from it’ (P1).

The interns expressed that through daily, clinical work their knowledge deepened. It became habit to diagnose and treat common conditions, and they could better differentiate a critically ill patient from a healthy one. The interns experienced this enhanced medical knowledge as increasing their trustworthiness in relation to patients and colleagues and making them feel both empowered and more independent as doctors. As one participant said, medical school had been taken to a new level:

‘I know about many things after medical school. I know about common diagnoses, and maybe I’ve even palpated a peritonitis, if I’ve been lucky, and maybe inserted a nasogastric tube and things like that. But to make the decision to insert that tube and the decision to start operating ... there is a certain level of difference there’ (P9).

In this new role as doctor, they experienced having to make decisions of their own. Deciding about treatments and remedies, estimating risks, as well as making decisions about oneself—about when to ask a superior for help or decide to manage on their own. Being trusted to take on the responsibility of a decision-maker was regarded as important in enabling them to learn and grow as doctors:

‘It was not as if I was abandoned, but I was allowed to be in charge of the patients, and I assessed 19 patients that shift. [...] I had never felt that pushed and supported ever before, as when someone actually gives you the responsibility’ (P11).

**Theme 2: A doctor with support**

According to the participants, being a medical intern came with support in various forms. On a structural level, the interns experienced having an overarching safety net provided by the organisation and the responsible stakeholders at each hospital. Supervisors and programme directors were close at hand and were available if interns encountered problems:

‘We know exactly whom to turn to with our concerns and there’s a lot of support from the head of interns. As a junior doctor before the internship, you are more at the mercy of the specific clinic where you work, and there is no support around you’ (P11).

At the workplace, the interns felt assured that it was both legitimate and expected of them to call for assistance and frequently ask questions. They expressed that it was acceptable to feel unsure and hesitant; they felt comfortable being novices. Moreover, they noted that the demands and expectations placed upon them were lower compared to their senior colleagues. For instance, they knew that they were allowed to have a slower work pace, conducting thorough medical histories and looking up doses and contraindications; this provided a ‘win-win situation’:

‘Patients know that since you are an intern [...] you make mistakes, but they are also very happy and satisfied when they meet an intern, because we have much more time and we want to do much more, and we are super meticulous’ (P2).

One participant thought that having a name badge with ‘medical intern’ written on it provided a sense of security and helped in not merely being seen as a caregiver, but as a learner in need of supervision and education. Also, they said this identification justified attending potential learning opportunities not necessarily related to their assigned patients:
‘As an intern, you can be [...] more frequently asked when something happens; “Do you want to insert the nasogastric tube?”; “Do you want to attend this gastroscopy?”; “Do you want to join in on this ultrasound?”’ (P8).

**Theme 3: Healthcare sightseeing**

The interns described how the medical internship meant constantly changing their workplace. On the whole, they appreciated the rotations on several different wards, emergency departments and clinics, both in outpatient and inpatient settings. Moreover, they expressed that this kind of ‘sightseeing’ gave them an opportunity to get an overview of and grasp the organisation of the healthcare system. However, rotating from one department to another had negative consequences as well, and the interns expressed feeling anonymous, like ‘guest workers’:

‘At worst, I’ve felt that nobody knows who I am or why I’m there, and then you become a healthcare-producer more than anything else. You know that you’re going to be there for two weeks, and it feels like no one cares about ... me!’ (P7).

Additionally, the roles allocated to the interns differed. The roles ranged from being alone in the emergency department during a night shift to watching surgeons performing appendectomies and ‘hardly being allowed to breathe.’ Another aspect was the exhaustion and tiredness resulting from constantly attending new departments. Much time and energy were spent on understanding local routines and customs when starting a new rotation:

‘The actual problem, except that you have to be happy and friendly every Monday, is that there is a lot of logistics. “Now I’ve finished this paper, should I put it in this folder or in that folder?” [...] and it hinders the theoretical learning. It’s all about learning routines’ (P10).

**Theme 4: Stuck at the zoo**

The interns experienced the internship as a ‘luxury’; receiving salary while gaining experience and being on a steep learning curve together with other junior doctors. Nonetheless, they acknowledged the internship as mandatory and knew that they had to complete all predetermined clinical rotations in order to become a licenced doctor. Thus the ‘stuck at the zoo’ analogy; they felt stuck in a predetermined framework, yet it was in some ways comfortable and satisfactory:

‘There are actually very few professions where you’ve got that luxury, to be allowed to work while receiving supervision’ (P5).

According to the interns, the internship was experienced as a rigid period of a doctor’s career. For instance, they expressed not having the same flexibility as other employees to take time off or make changes in their schedules. Although inflexible and rigid, it was likewise a time where one could make use of the framework and profit from the circumstances. They expressed that there was space to learn more and do more during the internship in order to make the most of it, but there was also an option to choose the path of least resistance:

‘One gets to choose whether to take on a lot and aim to learn, or to somehow just survive the internship. [...] One can take very little responsibility, or one can take a lot’ (P4).

Further, the interns felt that they were low-ranking, with patients sometimes regarding them as beginners and superior doctors occasionally thinking they could use the interns for the ‘dirty work.’ Nevertheless, the interns emphasised the need to take responsibility for one’s own learning. To avoid being used by the system or becoming a victim of circumstances, they felt that they had to stay vigilant and aware of their rights and obligations. Once they approached the ‘finish line’ and looked back at their time as interns, they felt that it had been a good experience, that they had learned a lot, but were ready to move on:

‘I feel quite done with being an intern. I wouldn’t like to keep doing this that much longer, because I do not think it would give me more in this form, more than knowledge of course, but ... I want to move on’ (P7).
Discussion

This qualitative study reports on how junior doctors experience the medical internship. The four themes draw a picture of the internship, highlighting the benefits and the opportunities it allows, but also the drawbacks; taken together, these positive and negative aspects had considerable impact on the junior doctors and their transition to clinical work.

The internship as a transition

A major theme in the findings is how the internship enabled the interns to feel comfortable and safe in their new role as doctors - it allowed them to ‘find their feet.’ Overall, they seemed grateful for the support they received and comforted by the lowered demands placed upon them. The internship provided an opportunity to ‘try out’ working as a doctor and put their knowledge into practice. This is in line with the recommendations of the National Board of Health and Welfare in Sweden, emphasising that the internship should bridge the gap and allow interns to apply previously learned knowledge. International studies have shown that similar qualities, notably aspects of real time on-the-job support [21] and experiential practice [22], are components of a successful transition to clinical work for junior doctors.

Although occasionally experienced as tiring and exhausting, the internship was, interestingly, not depicted as a major source of anxiety or fear. Reports of heavy stress and mental exhaustion were absent in our data. This finding contradicts the reports from comparable international studies, where the transition is often referred to as stressful and mentally overwhelming [3, 4]. A possible explanation for this may be the clearly defined support and the lowered demands placed upon the interns. They expressed that they were always allowed, often expected, to ask questions, seek assistance and confirm plans with their tutors. This resonates with international studies that have described a lack of support related to patient-assessment as a crucial factor to mental distress among junior doctors [1]. Similarly, previous studies have demonstrated that a positive learning climate protects against mental exhaustion [23].

An additional explanation could be that many medical interns in Sweden have worked on temporary contracts as junior doctors before being admitted as medical interns. This prior exposure to clinical work might alleviate possible anxious or fearful experiences linked to the medical internship. Nonetheless, the interns repeatedly expressed how the internship specifically provided opportunities to take responsibility for patients, while simultaneously being a safe learning environment for them as junior doctors. In that sense, we argue that the medical internship, at least to some extent, found what O’Brien called the ‘sweet spot between challenge and support’ [24].

Learning versus working

Although acknowledging that one has to work in order to learn, the interns tended to look at learning and working as two separate entities. They found that administrative tasks often took time away from learning, and while happily engaging in patient-related work, they still expected it to come with some sort of educational purpose. This tension between learning and working resonates with the previous work of Skipper et al [25]. In their study, residents saw themselves as service providers and found many tasks to be without educational value. Additionally, the term 'service' has been shown to have a negative connotation and is frequently used to describe experiences interfering with learning [26], which was also the case in our study.

In the literature, nonetheless, it is well established that postgraduate training is built upon learning from work activities [6, 27]. Activities, such as doing rounds, taking a patient’s medical history and assessing and discharging patients, have thus been argued as making up the entire foundation of workplace learning. Seemingly, interns’ perception of learning differs from how learning is known to take place. This tendency to perceive work, or service, as taking time from learning, is disadvantageous in a healthcare setting where junior doctors need to learn from experiences gained at work. Therefore, the perception of how learning happens needs to be challenged, and work-activities need to be acknowledged as learning opportunities in their own right.
Yet, for work-activities to act as learning opportunities, they need to be designed with the individual learner’s needs in mind [28, 29]. Neglecting to consider what kind of activities medical interns should engage in and instead randomly placing a learner in a hospital-based environment and expecting him or her to efficiently work there can be counterproductive. Thus, we argue that it is of value to broaden the perception of how learning happens, in combination with assessing training doctors’ individual needs for learning, in order to relieve this unfavourable tension.

Even though medical interns reported having extensive support from supervisors and others in terms of caring for patients, they did not report any substantial support in their learning. It would therefore be naïve to expect medical interns to resolve the learning-versus-work tension on their own. Rather, interns need assistance from supervisors and mentors in balancing learning activities. We argue that there is unutilised potential for the medical internship to act as a powerful catalyst for learning for junior doctors, which educators and programme directors need to consider.

**Considerations**

Our study was conducted in a single context and health economy. Thus, generalisation of the findings beyond this specific environment must be made carefully. Although the sample was small, data was considered saturated based on the appreciation that very limited new information was being uncovered during the last interviews. We included interns from both regional and university hospitals; however, no significant difference between the locations was found in the data. The diversity of the research team, with both junior (ML, YC) and senior (SB, AN) doctors, of whom one is a former head of interns (AN), enabled us to challenge the interpretations of the data as we brought in different perspectives. It was arguably a limitation that the research team exclusively consisted of medical doctors. However, an outsider perspective was achieved through the main analyst (YC) not having any previous experience of the medical internship. The team included researchers with expertise in qualitative research (ML, SB), enabling high-quality analysis to be done. Although the participants are owners of their experiences, we as investigators see ourselves as co-constructors of knowledge, in accordance with the interpretivist approach [30]. Consequently, the interviews and the analysis have been guided by our curiosity, beliefs and preconceptions.

**Conclusion**

Our study extends the knowledge about the medical internship by illuminating how it is experienced by the interns themselves. This study has shown that the internship constituted an opportunity for the interns to ‘find their feet’ and to grow as doctors. The findings argue for providing junior doctors with extensive support, possibly reducing levels of stress and negative experiences of the internship. Overall, these findings offer interpretations to why the medical internship studied here can be considered a successful means to introduce junior doctors to clinical work. Nonetheless, it is fundamental that work-based activities are not merely seen as work, or service, but as essential learning opportunities and accordingly designed as such. To further understand the needs of junior doctors, future research could attempt to go beyond the mere experiences of the medical internship and explore how junior doctors and other stakeholders understand learning during the internship.

**Declarations**

**Ethics approval and consent to participate**

Ethical approval was sought from the Central Ethical Review Board in Gothenburg, and an advisory statement of ethics was received (dnr 285-17). Written informed consent was obtained from all participants prior to the interviews. The study was conducted in accordance with the Declaration of Helsinki.

**Consent for publication**
Not applicable.

Availability of data and materials

The data that support the findings of this study are not publicly available due to the them containing information that could compromise research participant privacy. However, excerpts of interview transcripts can be made available from the corresponding author (YC) on adequate request.

Competing interests

The authors declare that they have no competing interests.

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Authors’ contributions

YC is the corresponding author of this paper and is responsible for data analysis and interpretation and drafting of the manuscript. ML conceptualised and designed the study, conducted the interviews and contributed to data analysis and interpretation as well as revision of the manuscript. AN and SB contributed equally to the data interpretation, critical revision of the paper, and study supervision.

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References

1. Brennan N, Corrigan O, Allard J, Archer J, Barnes R, Bleakley A, Collett T, de Bere SR. The transition from medical student to junior doctor: today's experiences of Tomorrow's Doctors. Med Educ. 2010;44(5):449–58.
2. Finucane P, O'Dowd T. Working and training as an intern: a national survey of Irish interns. Med Teach. 2005;27(2):107–13.
3. Bogg J, Gibbs T, Bundred P. Training, job demands and mental health of pre-registration house officers. Med Educ. 2001;35(6):590–5.
4. Sturman N, Tan Z, Turner J. "A steep learning curve": junior doctor perspectives on the transition from medical student to the health-care workplace. BMC Med Educ. 2017;17(1):92.
5. Kellett J, Papageorgiou A, Cavenagh P, Salter C, Miles S, Leinster SJ. The preparedness of newly qualified doctors - Views of Foundation doctors and supervisors. Med Teach. 2015;37(10):949–54.
6. Teunissen PW, Scheele F, Scherpbier AJ, van der Vleuten CP, Boor K, van Luijk SJ, van Diemen-Stevenoorde JA. How residents learn: qualitative evidence for the pivotal role of clinical activities. Med Educ. 2007;41(8):763–70.
7. Wijnen-Meijer M, Burdick W, Alofs L, Burgers C, ten Cate O. Stages and transitions in medical education around the world: clarifying structures and terminology. Med Teach. 2013;35(4):301–7.
8. Socialstyrelsen. Socialstyrelsens föreskrifter om allmäntjänstgöring för läkare. Available from: https://www.socialstyrelsen.se/regler-och-ritlinjer/foreskrifter-och-allmanna-rad/konsoliderade-foreskrifter/19995-om-allmantjanstgoring-for-lakare/. [Accessed: 29 June 2020].
9. SLYF. AT-rankingen 2019. Available from: https://slf.se/sylf/at-lakare/at-ranking/. [Accessed: 29 June 2020].
10. Vårdguiden. Lista över sjukhus i Sverige. Available from: https://www.vardguiden.com/lista-over-sjukhus-i-sverige/. [Accessed: 30 June 2020].
11. SLYF
SLYF. Väntetidsrapporten. 2019. Available from: https://slf.se/sylf/app/uploads/2019/12/vaxxtetidsrapporten-2019.pdf. [Accessed: 29 June 2020].
12. Creswell JW. Qualitative inquiry and research design: choosing among five approaches. 3. ed. Thousand Oaks: SAGE Publications; 2013.
13. Illing J. Thinking about research. In: Understanding Medical Education. 2 edn. Edited by Swanwick T. Malden, MA: Wiley-Blackwell; 2014: 329–347.
14. Sandelowski M. Whatever happened to qualitative description? Res Nurs Health. 2000;23(4):334–40.
15. Sandelowski M. What's in a name? Qualitative description revisited. Res Nurs Health. 2010;33(1):77–84.
16. Östgren CJ, Krook–Brandt M, Carlborg A. AT-provet avslöjar ökade kunskapsklyftor. Läkartidningen. 2016;113(20).
17. Statistics Sweden. The Swedish Occupational Register with statistics. Available from: https://www.scb.se/contentassets/ae540cb0a7a0409fa223ca872f68fe90/am0208_2016a01_sm_am33sm1801.pdf. [Accessed: 2 July 2020].
18. McGrath C, Palmgren PJ, Liljedahl M. Twelve tips for conducting qualitative research interviews. Med Teach. 2019;41(9):1002–6.
19. Elo S, Kyngäs H. The qualitative content analysis process. J Adv Nurs. 2008;62(1):107–15.
20. Graneheim UH, Lundman B. Qualitative content analysis in nursing research: Concepts, procedures and measures to achieve trustworthiness. Nurse Educ Today. 2004;24(2):105–12.
21. Lefroy J, Yardley S, Kinston R, Gay S, McBain S, McKinley R. Qualitative research using realist evaluation to explain preparedness for doctors’ memorable ‘firsts’. Med Educ. 2017;51(10):1037–48.
22. Tumbo J, Sein NN. Determinants of effective medical intern training at a training hospital in North West Province, South Africa. Afr J Health Prof Educ. 2012;4(1).
23. Dahlin M, Fjell J, Runeson B. Factors at medical school and work related to exhaustion among physicians in their first postgraduate year. Nord J Psychiatry. 2010;64(6):402–8.
24. O’Brien BC. What to Do About the Transition to Residency? Exploring Problems and Solutions From Three Perspectives. Acad Med. 2018;93(5):681–4.
25. Skipper M, Nohr SB, Jacobsen TK, Musaeus P. Organisation of workplace learning: a case study of paediatric residents' and consultants' beliefs and practices. Adv Health Sci Educ Theory Pract. 2016;21(3):677–94.
26. Galvin SL, Buys E. Resident perceptions of service versus clinical education. J Grad Med Educ. 2012;4(4):472–8.
27. Billett S. Learning through health care work: premises, contributions and practices. Med Educ. 2016;50(1):124–31.
28. Yunyongying P, Savoy M. A modern day paradox: service versus education. J Grad Med Educ. 2013;5(2):345.
29. Grant J. Learning needs assessment: assessing the need. BMJ. 2002;324(7330):156–9.
30. Malterud K. Qualitative research: Standards, challenges, and guidelines. Lancet. 2001;358(9280):483–8.