

Determinants of effective medical intern training at a training hospital in North West Province, South Africa

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Background. Medical internship that entails training as a doctor and working in an accredited facility under supervision within the limits of a well-defined scope prepares the professional for independent, competent, ethical medical practice. In South Africa medical internship is managed by the Health Professions Council of South Africa and was changed from 1 to 2 years in 2008. Mandatory rotations include internal medicine, obstetrics/gynaecology, paediatrics, surgery and family medicine. The researchers investigated the determinants of effective training during internship at an accredited hospital following concerns of incompetence of medical interns at the end of training.

Method. A qualitative study using individual interviews was done among 7 purposefully selected doctors who had completed internship at Rustenburg Hospital. Thematic analysis was done.

Results. Determinants of effective training in internship were identified as good quality supervisors, effective supervision, adequate opportunity to experiential learning, conducive environment, good support system (hospital management, hospital staff, academic opportunities), personal attributes and reasonable work load.

Conclusion. The need for accredited training institutions to create conducive training environments based on the identified determinants was identified.

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Introduction

In medical training an intern or houseman is a professional who has almost completed training as a doctor and is working in an accredited facility under supervision within the limits of a well-defined scope. The purpose of medical internship is to equip trainees with the knowledge and practical skills of medical practice in order for them to become independent, competent and safe medical professionals having obligations to patients, health systems and communities.¹

Medical internship was introduced in South Africa in 1950 by the South African Medical and Dental Council (SAMDC) and has been regulated and administered by the Health Professions Council of South Africa (HPCSA) from 1997.² In the early years, training took place in specialised and sub-specialised departments and lasted for 1 year. Lack of uniformity in the training programme led to dissimilarities in structure with some interns spending 6 months in medicine and 6 months in surgery without exposure to other domains such as obstetrics and gynaecology or paediatrics.² This unstructured exposure was identified as a major cause for lack of all-round competence among the doctors completing internship. It also failed to address the challenges of turning theory into practice that every newly qualified doctor has to face, with the consequence that the junior doctor may be left with dangerous skills and knowledge gaps that negatively affect professional capabilities.³

Concerns about the structure, relevance and quality of such training were raised by the medical fraternity. The traditional training focused on specialised fragmented training for the most part with issues such as context, community, culture and ethics, together with strategies in primary health care and public health being poorly addressed.⁴ Equally important was the misunderstanding regarding skills and competencies of doctors that were generally taken as referring to clinical skills, or 'technical skills' such as diagnosis and management, surgical and other procedural activities.⁵ Issues such as team work, ethics, confidence, professionalism and communication, which are important in the delivery of quality medical service, were not given adequate attention. The deficiency in a number of individuals and hospital teams significantly hampered the provision of the medical services as a whole.⁵ This led the HPCSA to change the duration of medical internship from 1 to 2 years. The programme was implemented in phases in 2005 for graduates of some universities and then implemented for all universities from 2007.¹⁷

The availability of resources as well as quality of supervision in training facilities also plays a significant role in the competence levels of interns. Lack of equipment and medicines hamper the training and acquisition of skills to junior doctors.⁵ Supervisors who are approachable, available, and up-to-date with relevant and practical teaching (such as interactive bedside teaching) enhance the confidence and competence of trainees.⁶

Having observed deterioration in the competencies of doctors completing internship, the researchers became concerned about the quality of training provided at the hospital to the medical interns.

This study was undertaken to establish the determinants of effective training during medical internship as experienced by doctors who completed internship at Rustenburg Provincial Hospital. Findings of this study form a useful guide in improving the training of medical interns at accredited institutions of similar nature.

Methods

A descriptive qualitative study using free attitude individual interviews¹⁸ was done in 2005 December and 2006 January. The study was done at Rustenburg Provincial Hospital, an accredited intern training secondary level hospital in North West Province, South Africa. Interns undergoing training annually at this hospital rotated for 12 weeks through 4 main disciplines; Surgery & Orthopaedic, Medicine, Paediatrics, Obstetrics & Gynaecology and for 2 weeks in the anaesthesia department.

Twenty interns who completed 1 year intern training in December 2004 and 2005 at Rustenburg Provincial Hospital were considered as the study population. Purposive sampling of seven doctors who continued employment at the hospital as community service doctors or medical officers was done. Those who refused to participate in the study, those who studied medicine outside South Africa and those who had left Rustenburg Provincial Hospital after internship were excluded.

A free attitude individual interview was conducted with each consenting participant. The exploratory question was: 'What were your experiences on training during your internship in the Rustenburg Provincial Hospital?' Facilitation of the interview was done through reflections, clarification and periodic reflective summaries. The interviews were recorded on audiotapes. Verbatim transcription of data and content analysis was done. Identified themes were grouped, compared and contrasted.

Ethical approval to conduct this study was given by the Research Ethics and Publications Committee, MEDUNSA campus, University of Limpopo; certificate number REPC/MP/153/2005.

Results

Table 1 lists the themes identified as determinants of effective training of interns.

Experiential learning enhanced skills acquisition and development

Experiential learning provided opportunity to develop intuition and improved clinical judgement

'I learnt a lot. Improved clinical judgement and skills made me trust my instincts and to sieve through all my knowledge I have in my brain and see which is better applicable to each patient.'

Opportunity to practise affects acquisition of surgical skills

'... I did above ... yah. I think it is below-knee amputations and stuff, and do few laparotomies , appendectomies um ... so in surgery I learn a lot, and I really enjoy surgery. I did minor operations like circumcision, stuff like that. That is really positive for me.'

Table 1. Themes identified as determinants of effective training of interns

Themes	Quotes
1. Experiential learning enhances skills acquisition and development	<i>'I enjoy the part a lot that it was unselected cases, meaning that the patients were not worked up and so you have to work up yourselves and relate to your own clinical judgement about what is the problem?'</i>
2. Training context and environment influence learning	<i>'How do you learn where there is no equipment and monitors are not working?'</i>
3. Supervision and support by senior medical practitioners influence the training of medical interns	<i>'You always had a senior doctor, you were given space to make a decision and the senior doctor supervises what you do'</i>
4. The attitude of the intern is an important factor in training and learning	<i>'Because working as a doctor in this situation, having a certain degree of responsibility, you are learning a lot more, you are more actively involved.'</i> <i>'This matures you as a doctor, teaches you to take responsibility, and to work under pressure'</i>
5. Training and learning happens best where there is a strong team	<i>'I like team work and learn from them.'</i>
6. Social factors influence intern training and personal development	<i>'My personal life is shot to bits. I have no time, most of the time I spend up here working'</i>
7. Workload is an important determinant of learning	<i>'The heavy workload is something good. At the end, I gained more'</i>
8. Management support is an important factor influencing training	<i>'There was no one to take, like, the responsibility of interns.'</i>

Exposure in Accident and Emergency enhanced skills

'Casualty, I enjoy the part a lot that it was unselected cases, meaning that the patients were not worked up and so you have to work up yourselves and relate to your own clinical judgement about what is the problem? What is the diagnosis? What investigations you should do, and we see a lot of very interesting cases ... resuscitations ... intubations in casualty ... um so that's the things that we are comfortable with ...'

Exposure to challenges enhances learning

'You are like the first point of call for most patients before you get to the ward. So you get all the emergency cases, how to treat poison, how to treat snakebites, how to resuscitate patients, you know, and all those things. You don't get that in the ward because the patient has already been treated in casualty, he is now stabilised ... you get that in the ward.'

'You need to know these things as doctors.'

The environment and context of training is important

Lack of equipment and space diminishes learning

'How do you learn where there is no equipment and monitors are not working?'

Poor safety of the work environment increases the risk of occupational injury and affects learning

'And I wanted to do it in this time when there were no interns, but I was on ARV and I was very, very sick. And I was so mad at myself'

Intern learning is negatively affected by the fear of medico-legal consequences of their actions

'At the beginning they would come out with you but the others, not always, and I feel that could result maybe one of these days in serious medico-legal issues.'

Availability of clinical guidelines and protocols enhances learning

'... they help, like ... you know... like in casualty you have a protocol for paraffin ingestion, then you know things to do for that'

Limited time during the rotations retards learning

'I think 2 weeks in anaesthetics is also not quite enough. I think that is also something that can improve'

Supervision and support by senior medical practitioners influence the training of medical interns

A positive attitude of the supervisor facilitates intern training while a negative attitude impedes training and learning

'His philosophy is he is not appointed as a training person so he doesn't really like to show... or to let interns do procedures themselves; if you are not going to stay in the department itself. He says if you change every two months, then just when you're trained you have to go back and it takes a lot to train somebody ... which I felt is, is not ideal.'

Unavailability of supervisors/senior doctors affects the morale of interns

'Interns are thrown a bit into the deep end and you know ... you need senior people available.'

'Not just leaving an intern in the ward alone to basically fight and fend for himself and sort out for himself...'

Support and affirmation encouraged interns to explore and learn

'Here I felt like a doctor.'

'You were never alone, you always had a senior doctor, you were given space to make a decision and the senior doctor supervises what you do.'

'He is very, very reassuring even with an appendectomy, though it was the first operation I ever assisted, he showed me how to cut and I did it myself.'

Negative behaviour and attitude of senior doctors demoralised interns

'A lot of the senior doctors would do their ward round and basically disappear. Expecting the intern to be ... maybe being a slave is a harsh word'

A good role model nurtures the intern

'I was there with Dr X. and she was very nice to be with ... She did a protocol book. She is a role model worth following ...'

Trainers with deficient knowledge and skill negatively influence training

'I think the academic knowledge was maybe not that great or up to date; so I did not learn'

Constant support by supervisor enhanced learning

'He never left me alone so there was never a point when I felt like I don't know what to do, there's no one around, you know, so my experience with medicine was fine. I learnt a lot.'

The attitude of the intern is an important factor in training and learning

A positive attitude leads to transformation of the intern to a mature professional

'Because working as a doctor in this situation, having a certain degree of responsibility, you are learning a lot more, you are more actively involved.'

'This matures you as a doctor, teaches you to take responsibility, and to work under pressure'

The intern's perception of internship as a fruitful experience enhances learning

'I'm quite confident in all the specific disciplines and that's thanks to RPH in the way they constructed the intern rotation, that you actually go through every department'

'It prepares you for anything you want to do after that.'

Intuition improves training and learning

'I've learned also something that they don't teach in medicine, you start getting that gut feeling, something that's bothering you and you go for it, and many times you're right'

Self-motivation among interns enhances training and learning

'I always made it a point to try and help where one can, that you get involved, that you get to know the patient, that you get experience in what is happening basically in theatre.'

Training and learning happens best where there is a strong team

Good interpersonal relationship between team members facilitates learning

'Interpersonal relationship with doctors and other members of staff, nurses, I get along with most people ... 95% of the people ... I like that ... I like team work and learn from them.'

Learning can happen from any member of the team

'You will learn more from the sisters than from the other doctors, especially us interns.'

Lack of respect is very demoralising

'You know, you get treated like a piece of ... like a chair or something... something dead. You just have to accept it.'

Harassment by senior staff belittles interns and interferes negatively with training

'I think that is a personality problem. I don't know how to ... when it comes to confrontation, I don't know how to handle it. In the beginning I got like really mad, and now it's like ... with my last serious confrontation I just said nothing. Even though the sister was standing there insulting me and insulting me and... uhm'

Social factors influence intern training and personal development

Internship is very intense and affects the social and personal development of the trainees

'My personal life is shot to bits. My dad thinks I work too much, I have no chance to go anywhere, ha ha, especially in terms of my girlfriend, she doesn't'

want to talk to me, because I have no time; most of the time I spend up here working’.

Lack of social amenities such as good housing demoralise interns and interfere with training

‘that was a bad experience for me. Is this housing fit for human beings?’

Workload is an important determinant of learning

Workload of interns has both positive and negative effects on training. Interns decried the effect of heavy workload on their social life and competence. However, reasonable workload was appreciated as it provides an opportunity to learn and gain more experience

‘The heavy workload is something good. At the end, I gained more.’

‘Fortunate that I don’t think it was one of the busiest intern hospitals, so it’s a nice balance.’

Management support is an important factor influencing training

Laxity and indiscipline of managers and senior doctors frustrated the medical interns

‘The head of the department would be there in the morning, but then from 10 or 11 whenever the ward rounds were finished until about 3 o’clock again, you were basically flying solo.’

Poor interest by management made interns to feel neglected

‘There’s one thing I don’t like about this facility, and I’ll keep saying it until I go to my grave, ... uhm I think we do not take care of our doctors in terms of administration. I think it’s very shameful that a hospital of this standard doesn’t have a tearoom for doctors.’

Lack of management responsibility for intern training impedes learning

‘The only problem was there was no one to take, like, the responsibility of interns, like even for other departments.’

Discussion

This study found that effective training of medical interns is facilitated by factors including an environment that offers learning opportunities, effective supervision, support by management, positive attitude of the interns, teamwork and a positive social atmosphere. Intern training will not be possible where the intern does not get the opportunity to learn and practise. Such a non-conducive environment has been described in some disciplines in academic hospitals in South Africa.² The regulations of the HPCSA regarding intern training prior to 2007 did not enforce an all-round exposure and proof of competence in a wide variety of domains. Several training facilities only rotated interns in two out of the four major domains (Medicine, Surgery, Paediatrics and Obstetrics and Gynaecology), leaving the rest of all the other domains as optional attachments. This impacted negatively on the skills and competence of interns in the general medical practice that they are exposed to as community service doctors and medical officers in the district health system. Several authors have highlighted the inappropriateness of training of interns in academic hospitals for general practice.³ With evolution of HPCSA intern training regulations, interns trained in Rustenburg Provincial Hospital rotated in all major disciplines. Respondents expressed their gratitude for this opportunity which prepared them well for the future. The importance of this multidisciplinary exposure during internship prepares the intern for effective medical community practice including rural practice.⁴

The important role of effective supervision was also highlighted by this study. The respondents shared that they learnt more when the supervisor showed support, guidance, affirmation, was committed and available to train and supervise. Multiple studies have reported similar roles and characteristics of supervisors that enhance training and learning of medical interns.^{3,7-9} This study found that the competence levels of senior doctors are critical for positive learning. It is this competence that interns recognise as an important aspect of role modelling.⁵ This phenomenon is echoed by other authors who shared the similar view that approachable, available and up-to-date teachers improve their confidence and allow them to extend their existing skills.⁶ Unapproachable, physically and mentally remote teachers are detrimental to confidence of the trainees and inhibit learning.

It is also important to note that the supervisor is a role model for the interns. Not only are the academic skills of senior doctors who are seen as intern supervisors important but also their behaviour. This study and others found that unethical behaviour of supervisors is a major source of frustration of the trainees and also inhibits learning.¹⁰

The training and work environment have strong influence in learning. Medical internship can be a physically exhausting and emotionally traumatic experience as found in a study done at the 5 teaching hospitals of the University of Witswatersrand that assessed various aspects of internship, including continuing medical education, workload and stress during 1985 and 1986.¹¹ Problem areas identified were excessive patient load, sleep deprivation and severe stress. The commonest symptoms of stress were fatigue, irritability and weight loss. In 1985, 53% of interns stated that they could not cope, and in 1986 this increased to 65%. Forty eight per cent of 1985 and 69% of 1986 interns lost interest in medicine during the intern year.

Workload was identified as an important influence to learning. The study highlighted the importance of quality of work compared with quantity of work. The majority of respondents felt that the number of hours they worked was reasonable compared with their counterparts. The reasonable workload gave opportunity to have a balanced life style, and enough recuperating time afterwards. The respondents did not mention the medical errors they made as a result of exhaustion. Medical errors have been attributed to long working hours¹² and duration of shifts.¹³ Intense work demands, limited control and high degree of work-home interference during internship predispose to burn out.¹⁴ The results of the study concluded that the work load in Rustenburg provincial hospital is reasonable.

The attitude, personality and interpersonal skills of interns are the essential qualities to overcome challenges during internship. Coping mechanism depends upon how the intern perceives his/her internship. According to respondents in one report, ‘It all depends on your attitude to your internship. If you make the most of it, you can handle most things.’¹⁵ This study identified diversity in the coping styles of interns including, submission, confrontation, reporting to authorities and suppressions. With regard to personality, this study found that the respondents, who had bold personality, took initiative and went the extra mile to learn gained more experience and knowledge than those who are humble, submissive and timid. One respondent expressed her disappointment that she was not confident with caesarean section because she was denied the chance to do one by the senior doctor while the other counterpart believed that one must be keen and bold to learn during internship.

The study highlighted the positive influence of teamwork on intern training. There must be good interpersonal relationship among healthcare workers to work as a team. To build a good interpersonal relationship there must be social interaction. Social interaction will assist members to understand each other's weaknesses and strengths and tolerate each other better. Good interpersonal relationship reduces the conflicts at the workplace and intern training provides opportunities to further develop skills in communication and team work as they were equally important in the delivery of quality services.⁵ The study showed that interpersonal skills are important in overcoming personal challenges, yet there was no formal training on such life skills. This is similar to the situation in Ireland where research highlighted that interns received minimal training in personal life skills at the undergraduate level.¹⁵ A survey done in New South Wales also revealed low levels of training in interactional skills both prior to and during the intern year.⁹

An important work-related factor affecting training of interns is the ever-increasing fear of occupational injury and medico-legal hazards. Owing to the human immunodeficiency virus (HIV) pandemic in South Africa, needle-stick injury and exposure to body fluids are scary and stressful experiences during internship training. The important influence of occupational and medico-legal hazards were demonstrated by 2 out of 7 respondents. The occurrence of such hazards is closely associated with extended work duration that was found to be common during internship.¹⁶

Conclusion

This study found that in order to achieve effective training, good quality supervisors, effective supervision, adequate opportunity to experiential learning, conducive environment, good support system (hospital management, hospital staff, academic opportunities), personal attributes and reasonable workload are essential factors.

Learning is impeded by poor supervision, inexperienced and indifferent supervisors, lack of opportunity to learn, poor support system, indiscipline, indifferent managers, lack of equipment, poorly organised academic

sessions, unreasonable workload and the fear of occupational and medico-legal hazards.

This training institution (and similar ones) is lacking in some of the factors conducive to effective training and needs to urgently implement steps to address this shortcoming.

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