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Trainee Doctors' Perception of the Adequacy of Support during their Intensive Care Attachment - a Phenomenological Study

Dale Ventour[1]* and Rebecca O'Rourke[2]

1 Faculty of Medical Science, University of the West Indies, Eric Williams Medical Sciences Complex, Champs Fleurs, Trinidad

2 Institute of Medical Education, School of Medicine, University of Leeds, UK

***Corresponding author:**
Dale Ventour

dale.ventour@sta.uwi.edu

Tel: +18687678158

Faculty of Medical Science, University of the West Indies, Eric Williams Medical Sciences Complex, Champs Fleurs, Trinidad.

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Abstract

Background: There is a paucity of research into the clinical support that junior doctors receive during their Intensive Care rotation and how the culture and environment support Trainees' learning.

Objectives: The aim was to evaluate the factors which influenced junior trainees learning and ability to effectively perform on a daily basis within the stressful Intensive Care environment. Also, the perception of junior non-anaesthetic trainees' educational support during their Intensive Care attachment.

Methods: The phenomenological psychological method as outlined by Larsson et al 2006, was used. Six (6) out of (7) junior doctors were interviewed in February 2014 and the analysis was transcribed by the author after listening to the audio recordings and the structure of meaning of a phenomenon and the analysis consists of five steps, presented below. The stepwise procedure is close to Giorgi's 1997, descriptive phenomenological method which allows for the researcher's interpretation of the data.

Results: There was an 86% response rate from the trainees, the themes affecting learning included: Authority, Hierarchy, Safety, Intimidating environment, Disorientation, Friendliness, limited member of the team, Dreading on-call duties, communication and consultant input.

Conclusion: The author suggested a 'tripod of critical care support' with the junior doctor at the apex and three arms of support comprising; the nurses, consultants and the intensive care environment. These three components combine to form the 'critical care culture' which trains, nurtures and support critical care doctors.

Keywords: Junior doctor support; Phemenologic study; Icu culture

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Abbreviations: NTN: National Training Number; ICU: Intensive Care Unit; MT: Meaningful Themes; NHS: National Health Service

Introduction

There has been a gradual change in the training of doctors in the United Kingdom from a less structured time-based training programme to a more structured time-limited programme. The second programme was proposed by Kenneth Calman, 1993 [1] 'to restructure the training of middle grade staff was introduced to produce a shorter, more structured and organised training pathway so that independent clinical competence as a consultant can be achieved much earlier than in the past in many disciplines. By the allocation of a National Training Number (NTN) and a more formalised training programme, the goal was to provide the health service with doctors of a consistently high quality in appropriate numbers for the forecast consultant vacancies.' The disadvantages over the old system is that doctors were trained for a shorter period of time and gained less clinical experience at the end of their training, this is compounded by the European working time directive which mandates working time of less than forty hours per week. In the old system, that is the pre-Calman era, junior doctors would progress in their training from a house officer to a senior house officer then a junior registrar to a senior register. A trainee would remain a senior registrar until a consultant post is available; this meant that these senior registrars acted in a consultant role for a few years until they were officially appointed as a consultant. This meant that the transition from trainee to consultant was easier and the other

consultant colleagues, staff and working environment was more familiar with these new consultants.

This system was replaced by the Calman system which is underpinned by competence based, more structured, shorter training in which more emphasis is placed on assessments and seamless progression through training (see appendix 2). The result is that there is a more consistent end product, that is, consultant who is trained in a shorter time. This seems like a perfect solution to training but the rippling effect is that the trainees today are far less experienced, with less clinical exposure as they are limited to forty hours per week by the European Working Time Directive (EWTD). This means that a greater consultant presence is required for both clinical and trainee support as these junior trainees is shunted into sub-specialist training at a far earlier stage in their career.

The main purpose of the trainees' rotation through intensive care is not to train these doctors as intensivist but to achieve the curriculum's generic competencies which are necessary for these doctors to progress in their training. These competencies can be obtained in other sub- specialities but intensive care provides a unique opportunity for these trainees at their stage of training by have a consultant presence most of the time in this stressful environment.

Context

Castle Hill Hospital contains a ten bedded General Intensive Care unit. The specialities supported in the hospital include; Haematology and Oncology centre for the North and East Yorkshire region, multiple general medicine wards (including respiratory, infectious diseases, cardiology and elderly) and all the surgical specialities except paediatrics and neurosurgery.

The General Intensive Care Unit is staffed by junior non-anaesthetic trainees, that is, foundation 2, core 1 and 2 (See appendix 2). The trainees respond to all medical emergencies in the hospital and are assisted by a senior resident on-call cardiac anaesthetic trainee who is a specialist trainee in year 4-7 of their training (See appendix 2).

The intensivist provides consultant-based care to patients seven days per week so that continuity of care is maintained, this fixed consultant presence during day time hours provides an ideal setting in which to support both staff and trainees. The author was particularly interested in this dynamic as he thought that both this and more importantly the Intensive care environment were the most important factors which provide support to junior trainees during their Intensive Care attachment.

These non-anaesthetic trainees rotate through intensive care every four months which makes continuing and establishing any standardised support framework from previous rotations very difficult. On the unit, there is generally a 1:1 to 1:3 ratio of consultant to trainee on a day to day basis, the ratio maybe beneficial to trainees and trainers alike as they get to know one another better during the rotation. There is little in the literature exploring how junior non-anaesthetic trainees perceive the Intensive Care Unit (ICU) environment and their view point regarding support in their professional role as ICU doctors. There are many non-anaesthetic specialities rotating through Intensive Care nowadays as the recognition and management of critically ill patients are basic competencies in all training programmes.

Data Collection

There was an 86% response rate by the Trainees and semi-structured interviews each lasting 50 minutes in a quiet seminar room close to the intensive care unit was used. Most of the trainees were very keen to describe this rotation to me even after being warned that confidentiality was guaranteed but this can be broken if anything revealed put themselves or patients at risk. It was also made it clear that the data recording will be kept for up to 2 years (I went through the data sheet in appendix 1 with them again as it was attached in the invitation e-mail).

The actual method used to obtain the data is a case study using semi-structured interviews of trainees and interpreting the data within the framework described above.

Philosophy (Constructionist), Perspective (Phenomenological Approach), Methodology (Phenomenological research), Method (Case study).

Method of Analysis

The phenomenological psychological method as outlined by Larsson et al 2006, was used [2]. The analysis was transcribed by the author after listening to the audio recordings and the structure of meaning of a phenomenon and the analysis consists of five steps, presented below. The stepwise procedure is close to Giorgi's 1997, descriptive phenomenological method which allows for the researcher's interpretation of the data [3].

This interview was conducted in 2014 and six (6) out of seven (7) trainees were interviewed and each interview transcript was read through thoroughly to gain an acquaintance with the text. The text was divided into 'meaningful themes' (MT) based on where there were shifts in meaning. After transcription the main themes are devised into these MT and then each MT was transformed from the interviewee's everyday language to a language relevant to the research question with no change of content and no change of meaning.

For each interview, the transformed MT were summarized and synthesized to a situated structure, we identified preliminary themes that had emerged. (5) themes of all the interviews were compared and combined to comprise a general structure of the phenomenon.

The author started off with 15 codes and kept reducing my codes until I was left with between 6-8 main themes. A copy of the transcript was analysed by the co-author who also extrapolated more thematic codes with final agreement after a brainstorming session.

Discussion

Even though this research project did not show that the environment was a major contributing factor which supports trainees, the author still thinks that organisational learning is the most powerful tool to combat change and improve service

delivery in the NHS as a whole. It remains the ideal, with each local community or specialised area contributing something to the organisation as a whole. The initial aim of this research project was to investigate whether the intensive care environment was the main factor supporting and influencing junior trainees during their intensive care rotation. The idea was that 'organisational learning' which occurred at a local level was indirectly contributing to doctors in general and especially the junior doctors' function within the National Health Service (NHS) in general.

'*Organisational learning is a process of increasing the capacity for effective organisational action through knowledge and understanding'* as described by Foil et al 1985 and Senge et al 1990 [4,5]. It is a process whereby knowledge is learned from action and reflection and implementation of new skills and training is made richer and more effective because it is generated at ground level by the team itself. It is a living, dynamic process of self-evaluation, reflection and reimplementation of methods which improve outcomes by improving staff training and support. As individuals (trainees) get experience, they change rotations, new information is obtained, policies change, the best practice remain and is shared with the unit and organisation as a whole.

Argote et al, 2000 stated that *'Knowledge necessary to carry out these routines is stored in many different forms and locations, including procedure manuals, physical equipment and layout, and in individual minds.*' This statement resonated in the author's thinking and after reflecting on the interviews it is postulated that Argote is describing the 'culture' of the organisation and how this culture facilitated learning on the shop floor [6].

What does this have to do with trainees' support in critical care? From the interviews the trainees had no understanding of the influence of the organisation on their learning or that they brought with themselves important organisational lessons from previous rotations. They outlined three main factors which they perceive as important in their support on the intensive care unit; the author called it the 'tripod of critical care support'.

Critical care support

Critical care support is akin to a tripod with the junior doctor at the apex, with its base comprising of three components; the nurses, consultants and lastly the intensive care environment. These three components combine to form the 'critical care culture' which trains, nurtures and support critical care doctors. It is evident from the trainees' interview that the presence of a critical care culture is a palpable entity with the nurses at the centre reinforcing the status quo and the trainees need to be on the nurses 'good side' in order to maximise and enjoy their critical care rotation.

Nurses' support role to junior doctors

In a survey by Lambert et al, 1996 conducted over 4 years into newly qualified doctors by it was found that the majority of respondents felt that they were strongly supported by the nurses and senior doctors but not by the organisation as a whole [7]. However, 22% of respondents felt that they were not adequately trained for some of the tasks they were asked to perform. This survey was conducted among the foundation one trainees and maybe applicable to the trainees this unit. It is interesting that the support that Lambert's trainees felt were similar to that of the previous survey conducted in the 1970's with the main difference being that of discontent with the organisation as a whole (NHS). There is indeed a gap in training these new doctors' issues such as shift work patterns, changing professional roles, European working time directive reducing working hours all add to the tension experienced by this group of doctors. The basic skills such as team working, communication, personal development which is so necessary to this group of future health professionals is less focused on as there remains a balance between educational needs and service provision. The nursing group seems ideally placed to provide some help in these areas as their clinical roles are changing with the adoption of more junior doctor roles in clinical practice, the difficulty that remains is, how will we implement this in practice?

'*Teaching could occur either in terms of informal role modelling or more formal classroom and or ward-based sessions about speaking with patients and their families'* Vallis et al 2004 and a role modelling structure for team working by observing and reflecting on the practice witnessed by the nursing fraternity [8].

Consultant input

Wall and Mc Aleer, 2000 conducted in depth interviews of 19 consultant teachers and junior doctors in the midlands and found that the most important traits that a good consultant teacher should have were [9]:

'The top five themes were giving feedback constructively, keeping up to date as a teacher, building a good educational climate, assessing the trainee and assessing the trainee's learning needs'

He recommended that the deanery should focus on these areas in order to deliver more effective trainee teaching and support. What is the junior doctors' perception of support by consultants? It is not good, in an analysis of critical incidents by Calman and Donaldson 1991, they found that;

'*There was a need for effective supervision of the house officer with feedback on performance. An induction/orientation period is necessary; there is evidence that a proportion of house officers need additional experience of practical procedures; house officers often have difficulty in setting priorities and they have little experience, prior to qualification, of organizational skills; during the year they are very busy with little time off. They perceive a lack of support from senior staff to help with personal problems and career guidance; they are conscious that communication skills are of great importance and would like additional help with this*' [10].

This damming report on the reality of trainees' support was unnerving to us as educators in the profession but I think things have changed for the better today. Consultants are now better trained as teachers and the roles of clinical and educational supervision have been more formalised and structured. In my interview, the role of the consultant was perceived as an all-encompassing one. The trainees did not separate the consultant's supervisory role from that of educational supervisor. It seemed that they valued the clinical supervisory role, that is, on the shop

floor more than the educational supervisory role. The difference between the two is small but significant; the clinical supervisor supervises and trains these junior doctors in their daily clinical tasks while the educational supervisor oversees training during the rotation in the specialty and coordinates or liaises with the college tutor. I think that it is a good thing that the trainees had not highlighted the separate consultant roles but amalgamated these roles in one. In reality, a consultant can function as both an educational and clinical supervisor to any allocated trainee so that the trainees may not perceive much difference the trainer's role.

Intensive care environment

'Workplaces are arenas of activity in which socio-culturally determined practice occurs, Billett 1998 and are one of the domains through which the social is ordered Edwards and Nicoll 2006' [11,12]. The Intensive care environment within the hospital setting is a complex environment with complex interactions of knowledge from different professionals with vastly different roles and it is how the trainees participate in this working relationship which determines how much and how well they learn. 'The workplace as a learning environment is understood as a complex negotiation about knowledge use, roles and processes, affordances, and engagement Billett 2004; Unwin and Fuller 2003 [13,14]. It is vital to recognise as an educator that workplace learning is not simply the transfer of theory to practice but the assimilation of knowledge, processing by the trainee in the community and performance of skills or retention of information. The environment or as my research project showed, the 'intensive care culture' reinforces knowledge within its structure so that knowledge transfer can take place.

What are some factors which limit knowledge transfer?

Broad and Newstrom, 1992 found nine barriers to knowledge transfer, with the lack of reinforcement being the most significant barrier to transfer [15]. The complex and unfamiliar critical care environment helped to keep the trainees focused on daily tasks and reinforced all the information which they were exposed. The fact that they were anxious about their environment and felt as if the 'did not belong to the community' served to positively reinforce their ability to function in this environment and not take things or situations for granted.

The trainees also stressed that they were most anxious about 'making decisions' about critically unwell patients even at their very junior level despite reassurances that someone more senior was close at hand. Johnson, 2002 showed that a key factor in learning transfer is the opportunity for trainees to apply what they have learned to their jobs, therefore the only way to allay the anxiety was for the trainees to actually work on the 'shop floor' [16]. The author initially thought that the induction was useless as there was still so much anxiety expressed by the trainees but realised that they felt that their lack of skills, insight into the environment and knowledge made it seem as if they did not believe me during their induction.

Comments such as;

That's what I felt because everything is new; I've never been dealing with 9 or 8 critically ill patients. They ask me questions regarding ventilator settings which they are not familiar with, so I thought that I need to be a difficult rotation.

These sentiments were too common despite assurances at the induction that they were in a junior role with senior support only up the corridor and that airway skill was not need on this unit.

Implication for practice

There is a move for reduced number of doctors in training and we are seeing a 10% reduction in training number as workforce planning streams have predicted that there are too many doctors in training. 'In a report by Health and Education National Strategic Exchange used data and calculations by the Centre for Workforce Intelligence to estimate the supply of trained doctors in future years. It has found that by 2025, when students entering medical school next year will become fully qualified, there will be an oversupply of more than 10,000 trained hospital doctors. The 2 per cent cut in training places is expected to have an impact from 2025 onwards' (HJC 2012). As a result, we will have more junior staff and maybe even nurse specialist working on the ICU performing junior doctors' role. It is imperative that we focus our attention on trainee support so that we can effectively cope with the changes that are coming to the workplace. The author thinks that we need structure and formalise the input by nurses in training by formally incorporating their feedback on trainees as part of their module feedback. Also, as part of the induction the trainees should be given a specific outline of their roles and have a trainee at their level actually go through a day on the ICU, this will help to ally their anxiety some more.

Limitation of study

The power differential between the interviewer and the junior doctor can have implications in how the trainees responded about the support they received on the unit.

Conclusion

The author suggested a 'tripod of critical care support' with the junior doctor at the apex and three arms of support comprising; the nurses, consultants and the intensive care environment. These three components combine to form the 'critical care culture' which trains, nurtures and support critical care doctors. It is evident from the trainees' interview that the presence of a critical care culture is a palpable entity with the nurses at the center reinforcing the status quo and the trainees need to be on the nurses 'good side' in order to maximize and enjoy their critical care rotation.

Declarations

Ethics approval and consent

Ethics approval was obtained by the University of Leeds ethics committee, ethics number LTEDUC-014 for this publication. Written consent was obtained from participants.

Consent and consent for publication

Written consent was obtained from the trainees interviewed. Full consent for publication obtained by author and co-author.

Availability of data

The data was stored electronically for 5 years in a password protected file.

Competing Interest

No conflict of interest by Author Dr Ventour or Co-author Dr O'Rouke

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Authors' contribution

Conceptualization of manuscript DV, Data collection by DV, analysis by DV and ROR. All authors have read and approved the manuscript.

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