

Challenges encountered by critical care unit managers in the large intensive care units

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Background: Nurses in intensive care units (ICUs) are exposed regularly to huge demands in terms of fulfilling the many roles that are placed upon them. Unit managers, in particular, are responsible for the efficient management of the units and have the responsibilities of planning, organising, leading and controlling the daily activities in order to facilitate the achievement of the unit objectives.

Objectives: The objective of this study was to explore and present the challenges encountered by ICU managers in the management of large ICUs.

Method: A qualitative, exploratory and descriptive study was conducted at five hospital ICUs in Gauteng province, South Africa. Data were collected through individual interviews from purposively-selected critical care unit managers, then analysed using thematic coding.

Results: Five themes emerged from the data: challenges related to the layout and structure of the unit, human resources provision and staffing, provision of material resources, stressors in the unit and visitors in the ICU.

Conclusion: Unit managers in large ICUs face multifaceted challenges which include the demand for efficient and sufficient specialised nurses; lack of or inadequate equipment that goes along with technology in ICU and supplies; and stressors in the ICU that limit the efficiency to plan, organise, lead and control the daily activities in the unit. The challenges identified call for multiple strategies to assist in the efficient management of large ICUs.

Introduction

An intensive care unit (ICU) is a specialised section of the hospital that provides comprehensive and continuous care for people who are critically ill and who can benefit from treatment. According to Lee (2002:3), ICUs are specialised hospital wards that provide care for patients suffering from life-threatening conditions.

The American Association of Critical-Care Nurses' (AACN) Scope of Practice Statement states that 'critical care nursing is a dynamic process, the scope of which is defined in terms of critically ill patients, the critical care nurse and the environment in which critical care nursing is derived' (American Association of Critical-Care Nurses 2007:1). Nurses in the ICUs are exposed regularly to huge demands in terms of fulfilling the many roles that are placed upon them. Unit managers, in particular, are responsible for the efficient management of the units. In the ICU, the unit manager is involved at a level different from critical care nurses. The critical care nurses are mainly involved in the nursing care of their patients only, whilst the unit manager is involved in the overall planning, organising, leading and controlling of the activities in the unit. Nursing management, according to Swansburg and Swansburg (2002:27), refers to performing the functions of planning, organising, leading and controlling the activities of a nursing unit. This study presents the challenges encountered by the critical care unit managers in the management of a large ICU. A large ICU refers to one that has 12 or more beds per unit.

Problem statement

The tendency for hospitals in the Gauteng Province of South Africa is to create large ICUs which are mostly understaffed and have to deal with a rapid turnover of patients. With these large units there is a demand for more equipment and, in the process, a greater demand for critical care nurses who are already in short supply (Gillespie 2006:38). These problems have, however, not been described and documented extensively in the South African context.

Critical care nurses are responsible for clinical assessment, making diagnoses and designing individualised care plans for critically-ill patients in order to reach the expected outcomes for each patient. Unit managers are responsible for the effective and efficient management of the unit

but, in addition, are often required to do functional nursing and fulfil other roles in relation to care of the patients. The roles and functions of registered nurses working in critical care units are regulated by the South African Nursing Council (SANC) according to the scope of practice for registered nurses (SANC 2005:R2598, as amended). Despite all their competencies, expertise and experience, there seem to be unique problems encountered by unit managers on a daily basis when working in large ICUs. The argument in this article is that it is necessary to understand the challenges encountered by the ICU managers working in the large ICUs of 12 and more beds. This will assist in the design of strategies to overcome these challenges.

Background

The nursing unit is a subsystem of the health service such as a hospital and a nurse appointed to manage this nursing unit is called a unit manager (Muller 2002:103). According to Cherie and Gebrekidan (2005:4), nursing unit management is the process of planning, organising, leading and controlling that encompasses human, material, financial and informational resources in an organisational environment in order to achieve predetermined objectives within the context of a specific nursing unit. Each nursing unit has a unique nursing programme being implemented; and the management of the unit requires certain management skills, regardless of the nature of the nursing unit (Muller 2002:103). Effective management and safe healthcare delivery are essential in the critical care unit, as they are in any other unit, if patient care goals are to be met.

The unit manager in the ICU is an operational or first-level manager who facilitates the achievement of the set objectives within the ICU and the health service by means of the management activities of planning, organising, leading and controlling that pertain to all the daily activities in the unit. These activities are performed in an integrated manner.

According to the Audit Commission (Audit Commission 1999) in the United Kingdom (UK), the average size of a critical care unit in the late 1990s was six beds. It was, however, suggested that the optimum working number of critical care unit beds be eight based on the judgement that this is the number that can be managed successfully by one consultant. The average size of an intensive care unit in the United States (US) is between six and 10 beds (Lee 2002:5). As the healthcare scenario changes because of a number of factors, such as an increased incidence of violence, greater numbers of accidents and the advent of managed care, the demand for intensive care services changes and continues to grow (Monahan *et al.* 2007:192), thus calling for the creation of larger ICUs.

Thompson *et al.* (2012:1586) indicate that hospitals construct large ICUs in order to adapt to changing patient demographics or disease patterns; to upgrade or add services; and to accommodate changes in the flow of information, materials or patients. The demand for an increased number of beds subsequently leads to the creation of larger ICUs.

The creation of large ICUs in South Africa is brought about by, amongst other things, factors such as:

- the growing number of serious diseases and trauma
- the need to concentrate the specialty of intensive care in one area and to accommodate the increasing numbers of patients needing ICU services
- disproportionate spread of hospitals across the provinces (Bhagwanjee & Scribante 2007:1323). In a study conducted in 2006 for the national audit of critical care resources for unit and bed distribution in South Africa, for both public and private hospitals, it was found that 23% of public and 84% of private hospitals had ICU/High Care (HC) units/beds. The majority of the units/beds for both public and private hospitals were located in three provinces, namely, Gauteng, KwaZulu-Natal (KZN) and the Western Cape (WC) (Bhagwanjee & Scribante 2007:1311)
- the referral and transfer of patients from public and private hospitals with no ICU/HC facilities (Bhagwanjee & Scribante 2007:1323)
- the referral and transfer of patients from private hospitals to public hospitals because of a lack of, or exhaustion of, medical aid funds
- the referral and transfer of patients from public to private hospitals as a result of personal preferences or choices, availability of medical aid funds and the desire for better care.

The demand for intensive care services in both public and private sector hospitals in Gauteng Province, South Africa, is such that ICUs are operating at full occupancy rates. Several hospitals, both public and private, strive to meet the high demand for intensive care services through the creation of large ICUs (Matlakala 2012:5).

Purpose of the study

The purpose of this study was to explore the challenges encountered by ICU managers in the large critical care units.

Definition of key terms

Challenge is a demanding situation with a combination of circumstances at a given time (Collins 2002). The challenges in this study relate to those problems and difficulties that the ICU managers encounter when working in a large ICU.

Critical care nurse is a professional nurse who was trained at an accredited nursing education institution under the SANC R212, as amended (South Africa 1993), and has successfully completed and registered for an additional qualification (post basic/graduate) for Medical and Surgical Nursing Science (Critical Care Nursing). In this study, it is the registered nurse who has successfully undergone special training in critical care nursing ('ICU trained'), or is experienced to care for the critically-ill patients in the ICU, but is not ICU trained ('non-ICU trained').

Large intensive care unit in this article is regarded as one which has 12 or more beds per unit with only one unit manager or shift leader.

Management is 'the process of working with and through individuals, groups and other resources (such as equipment, capital and technology) to accomplish organisational goals' (Huber 2006:35). In this study, management refers to carrying out the management activities of planning, organising, leading and controlling by the unit manager within a large ICU, on a daily basis.

Unit manager is a professional nurse who has formal authorisation to manage a nursing unit by virtue of the post description and designated lines of authority within a nursing service or hospital (Muller 2002:45). In this study, it is a critical care nurse who is responsible for the overall management of the unit, in the form of carrying out all the activities of the management process.

Research method and design

A qualitative, exploratory and descriptive design was conducted. The qualitative approach was used because the researchers needed to obtain information from the unit managers through exploration of the challenges they encounter in large ICUs. The theoretical assumption in this study was that qualitative research was used in order to understand the unit managers' encounters and the meanings they assigned to the challenges encountered, as this was necessary for the generation of narrative data. The researchers conveyed an understanding of the challenges by reporting the realities in detail, through presentation of themes and quotations that reflect the descriptions by the participants.

The study was conducted in the ICUs of one public and four private hospitals in the city of Tshwane metropolitan (Pretoria), Gauteng Province. The public hospital was one of the city's academic hospitals (an academic hospital is a public hospital that is attached to a medical university) and the private hospitals included one from each of the Netcare, Mediclinic, Life Healthcare and Independent groups in the city. The ICUs of these hospitals were selected because of their capacity of 12 or more beds. The units had to be adult ICUs and were categorised as 'adult medical and surgical', 'multi-specialty' or 'other' according to the Centres for Disease Control and Prevention (CDC) and National Nosocomial Infections Surveillance (NNIS) system's definition of ICU types (CDC 2004).

Population and sampling

The target population was critical care nurses working in the adult ICUs of the selected hospitals. Purposive sampling was used to select the ICU managers from the population of critical care nurses, based on their experience in the ICUs, to provide information about the challenges of managing large ICUs. To be included in the study, the participants had to be unit managers, appointed or acting; registered nurses; ICU trained or non-ICU trained; with minimum experience of one (1) year's working in an ICU; and currently working in the unit. The participants had to be willing to participate in the study. The ICUs had to have a minimum of 12 or more beds in order to be included in the study.

Data collection

Data were collected through interviews which were audio recorded with the permission of the participants. Five individual interviews with the unit managers were conducted during August 2010. The participants were included in the interviews according to predetermined eligibility criteria and their willingness to participate. The interviews took place in the ICUs of the five selected hospitals and lasted about 25–40 minutes each.

Ethical considerations

Ethical approval was obtained from the Higher Degrees Committee of the Department of Health Studies, UNISA (approval reference number 30049768). Permission to conduct the study was requested and obtained from the relevant authorities, that is, the Department of Health, Gauteng Province and the management of each hospital, through their ethical committees who were provided with the relevant documentation from the researchers. A written consent form was signed by the participants, following a thorough explanation of the purpose of the study. The participants were treated as autonomous agents by allowing them voluntary participation in the study. Privacy and confidentiality were maintained in that their names did not appear in the records (Polit & Beck 2008:170, 174). Only code numbers and dates were used to identify the audio tapes and transcripts. The participants were assured that they had the right to withdraw from the interviews without penalty (Brink, Van der Walt & Van Rensburg 2006:31). No person was coerced, or to some degree forced, to participate. The consent forms were kept safely and separate from the research documents.

Trustworthiness

Guba's model of trustworthiness criteria, namely, credibility, transferability, dependability and confirmability (Lincoln & Guba 1985, quoted in Polit & Beck 2008:539) were used to ensure trustworthiness. Credibility was achieved through the use of data collection by individual interviews with critical care unit managers involved in management in order to ensure that the data were believable. The data from the transcribed verbatim notes were shared with the participants so as to verify and confirm the accuracy of information captured and the meanings that the critical care unit managers wished to impart regarding their challenges in the large ICUs. Experts in qualitative research were asked to review the research plan and implementation and to verify the data analysis. The findings of this study are transferable to the critical care units from the hospitals that were included in this study (Polit & Beck 2008:539–540).

Data analysis and research results

Audio tapes of the interviews were transcribed verbatim and data were analysed manually (Pope & Mays 2006:63). Transcripts were coded and the themes were identified. A consensus meeting was held between the researchers following

coding of the data in order to verify the themes following the Tesch's descriptive analysis method (quoted in Creswell 2003:192). Five themes emerged from the findings and are described below in terms of the challenges encountered.

Demographic data

The numbers of beds in the five ICUs varied between 12 and 23 beds, with an average of 14 beds per unit. The units were all adult ICUs, with different layouts such as open plan, single rooms and cubicles with 4–6 beds, or a combination of open plan with single rooms. There were two male and three female unit managers, all ICU trained. Only three unit managers had an additional qualification in Nursing Management/Nursing Administration. Their experience in the ICU varied from 1 to 18 years. Whilst this was not a comparative study, the challenges were similar in both public and private hospitals and are described below.

The challenge related to layout and structure of the unit

The participants indicated that the ICUs were too big. The number of beds in the different ICUs ranged from 14 to 23 beds per adult unit. The reason for the increase in the number of beds was indicated to be related to the demand for ICU beds and/or intensive care services. One participant said:

'It is too big. That is why patients end up saying we are noisy. It is because we are many. They could have made two ICUs out of this'. (P3, Male)

The units had different infrastructures, with different physical layouts such as open plan, private rooms or cubicles with six beds each. The layouts were indicated to have both advantages and disadvantages, as was explained:

'Yes it becomes difficult especially from the design point of view. As you can see we've got the walls between the cubicles, now you as a nursing manager, if you sat in this first cubicle you can't see what is happening in the next cubicle... unlike if it was an open plan'. (P2, Female)

'You know the infrastructure as it is outlined here [*referring to a unit with open plan and single cubicles*]; it makes it easy to be managed. For example it is divided into cubicles. Out of the twenty three beds, seventeen of them are cubicle and for infection control purposes it works out quite excellent. And for customer care it works out better because patients that are critically ill are not being exposed to those who are awake'. (P3, Male)

The challenge related to human resources provision and staffing

The participants reported that they were encountering problems with provision of nursing staff in a large ICU. It follows that the biggest problem was to have sufficient and efficient nurses:

'One of the biggest challenges is to find competent nursing staff or ICU trained or experienced'. (P1, Male)

'Everyday problem is then that we don't have enough personnel, capable personnel, especially at night'. (P5, Female)

Participants reported that the units were using agency staff and other categories of nurses, such as enrolled nurses and enrolled nursing assistants to complement the shortage of critical care nurses:

'We rely on agency staff'. (P5, Female)

'Yes we do have enrolled nurses in the unit which is also a challenge. The challenge being that enrolled nurses have their scope of practice which does not qualify them to work in the intensive care unit. But now we are expected to work with them like professional nurses and really it is a challenge'. (P3, Male)

Leading from the problems with shortage of staff, the nurse-to-patient ratio was also indicated to be a problem, with the nurses sometimes having to care for more than one patient. The ratio of one nurse to two patients was sometimes difficult because of the acuity levels of the patients:

'When the nurse-to-patient ratio is not managed according to the acuity level of the patients, problems with the quality of patient care inevitably arise'. (P3, Male)

'All other patients is one nurse to two patients. And that is a difficult ratio because it is the unventilated patients that give you the struggle'. (P1, Male)

The challenge related to provision of material resources

The unit managers indicated non-availability, insufficient amount and poor quality of equipment as being the challenge related to material resources. Equipment, if available, was found to be either old or not functioning. There were different problems, as indicated:

'I think with the equipment, we got less equipment than the number of patients'. (P5, Female)

'Central monitors are presently non-functional'. (P4, Female)

'There is no temperature probe. We have to shake the thermometer as if we are in the ward'. (P3, Male)

The supplies, which also included medication, were insufficient or there was a delay in issuing from the relevant departments such as the pharmacy or central sterilising department; this contributed to poor quality of nursing care, because nurses had to wait for a long time before administering medication or performing essential procedures:

'They give you actual proof, written proof from a supplier confirming that they don't have whatever medical supply, or medication, or drug that you need. They don't have it in their warehouse. So if the situation like that arises, you end up having a problem. You can imagine if it's an antibiotic. So it's a problem. At the end of the day many [*patients*] might end up having resistance'. (P3, Male)

The challenge related to stressors in the unit

Participants highlighted that stress emanated from several factors such as the roles and responsibilities of the unit manager, the workload in the unit and a lack of protocols. ICU managers were of the opinion that they (the unit managers) were given a lot of responsibility with regard to management of the unit:

'It's difficult to be responsible. If you go and look at the meaning of the word responsible, it's a huge thing to put on one person's shoulder. And you know, if there is something we can change in nursing is the meaning of responsible'. (P1, Male)

The participants advocated that there should be shared responsibility between the unit manager and the other nurses in the unit. The major problem highlighted was with being in charge, either as the unit manager or as the shift leader. It was revealed that the unit manager had to constantly supervise whether orders were carried out and medications were in fact given at the prescribed times. It was indicated that there were several times when the unit manager did the nursing rounds; where it was found that there were nursing care and practice duties that were not carried out. The unit manager ended up being responsible and accountable for those duties.

Workload as a stressor was indicated to be increased by, amongst other things, the number of patients nursed by one person because of a shortage of staff; and non-nursing duties performed because of a lack of cooperation from the multidisciplinary team, as one unit manager indicated:

'They [*critical care nurses*] look at four patients at a time, but they get tired and it's stressful for them too because it's a lot of administrative work that must be done before we leave'. (P3, Male)

Some units did not have protocols, standards and directives for nursing care which contributed to medication errors and infection control problems as indicated:

'There are no doctors' protocols. Well, we just pray that nothing serious happen'. (P5, Female)

The challenge related to visitors in the unit

The participants indicated that they encountered problems with regard to control of visitors and the dispensing of patients information. Visitors come at their own convenience and sometimes disrupt the unit routine:

'When you work in the ICU actually the patient is most of the time 1% of your problem. The family is 99.9%'. (P3, Male)

'I'm telling you they just visit anytime because this is their family and they don't care'. (P4, Female)

The protocol for dispensing of patient information focuses specifically on those patients who could not give consent, stating that information can only be given to the closest family members such as spouse, parents or children. However, some visitors or relatives would bypass the system by identifying themselves falsely as the patient's closest family members in order to receive information about the patient. It follows that the nursing staff were trying very hard to ensure confidentiality as indicated:

'... but the very same family members, they don't understand it when you tell them that you cannot discuss certain information with them about somebody that didn't give you consent to discuss about him'. (P4, Female)

Discussion

In this study, the units had 14 to 23 beds. They had different layout and structures, alternating between open plan or private rooms (or a combination thereof) and the participants acknowledged that the different structures and layouts had both advantages and disadvantages with regard to nursing care and practice. The findings concur with Flaatten (2007:392) who indicates that the impact of the design of an ICU affects the patients, relatives and ICU personnel; and that there is also a huge need for privacy in ICU, meaning that there should be single-bed rooms available in order to allow patients and visitors privacy and also to allow the staff to perform their procedures. According to Flaatten (2007:391), an ICU can be considered as the sum of all tools acquired to treat patients, which is the way it is physically combined, how it is planned and the types of rooms that are built for the patients. It is worth noting that the design of an ICU can have an impact on the outcomes of care; and that cross-contamination and infections can be correlated with different designs. The participants indicated that they needed the units to be divided into manageable sections. According to the guidelines for ICU design, 8–10 beds per unit are considered best from a functional perspective (Rashid 2006:286). It therefore follows that the units with 23 beds could be divided into two sections, perhaps with shift leaders for the sections (over and above the unit manager).

Vincent *et al.* (2010:311) indicate that ICUs are regionalised so that trained staff are concentrated in several larger units, which will provide greater staffing flexibility and may offer improved patient outcomes. However, in this study, the availability of beds in the large ICUs in relation to the shortage of staff and unavailability of sufficient adequately-trained ICU nurses led to challenges with regard to staff allocation and the nurse-to-patient ratio was above the norm. The findings of a study by Matlakala (2012:114) revealed that for ICU patients, such as those who are intubated and ventilated or on ionotropic support, the nurse-to-patient-ratio should be one nurse to one patient (1:1) and for high care patients, such as those on masks or room air, it should be one nurse to two patients (1:2). According to the British Association of Critical Care Nurses (BACCN) (2010:6), ventilated patients should have a minimum of one nurse to one patient. The norms and standards, according to the Safe Staffing Saves Lives Information and Action Tool Kit (International Nurses Day 2006), indicate that nurse-to-patient ratios in the State of California, US, in the adult and Neonatal ICUs, as well as for ICU patients in the emergency room, is 1:2 (California Nurses Association 2005:51). Bhagwanjee and Scribante (2007:1315) mention that the ideal ratio of nurses to patients in the ICUs in South Africa is also supposed to be 1:1. However, in practice and according to the findings of this study, it is often found that the ratio of nurses to patients is more than 1:1, requiring a nurse to care for more than one patient and not taking into consideration the acuity level of the patients. According to the findings in this study, the ICU nurses experienced a nurse-to-patient ratio which was not according to the acuity levels of the patients, that is to say, sometimes

it became (for example) one nurse to two ventilated patients. Kiekkas *et al.* (2008:388) indicate that compromised quality of care is expected to come as a consequence of imbalance between the acuity level of the patients and the amount of care nurses are capable of providing. This is brought about by the shortage of nurses, both in South Africa and globally. The BACCN (2010:6) advocates that the nurse-to-patient ratio within any critical care unit should not go above one nurse to two patients.

The findings indicated that it was not possible to have competent, trained and experienced ICU nurses because of the global shortage of nurses, especially registered nurses (Gillespie 2006). According to the BACCN standards for safe nurse staffing in critical care (BACCN 2010:6), every patient in a critical care unit must have immediate access to a registered nurse with a post-registration qualification in this specific specialty. However, the shortfall in the availability of critical care nursing staff was addressed through overtime work on the part of permanent ICU nurses who were off duty or by the use of agency nurses, including the utilisation of other categories of nurses such as enrolled nurses. In the South African context, enrolled nurses are not trained to work in the ICU. Rischbieth (2006:399) indicates that some of the factors contributing to inappropriate and potentially hazardous care delivery include nurses working out of their scope of practice in the ICU. The level of care required by each patient should equate to the skills and knowledge of the registered nurse delivering and/or supervising that care (BACCN 2010:21).

Specialised equipment is required for the delivery of quality care in the ICU. There was reportedly a shortage of supplies, medication and equipment such as cardiac haemodynamic monitors and mechanical ventilators. The equipment that was not functional was not repaired timeously. Whilst the units are large, with more than 12 beds, there should be adequate resources available for each bed. Each bed should have the necessary equipment and supplies, including a nurse responsible for the care of the patient on that bed.

Stress experienced by the unit managers was related to the roles and responsibilities, which were found to be too much for one person, that being the unit manager. This finding is similar to the findings in the study by Hays *et al.* (2006:188) who mention that some of the reasons for stress in registered nurses within ICUs are responsibility and decision making. According to Scribante and Bhagwanjee (2007:68), nurses practising in critical care units are generally given high levels of responsibility with high expectations of accountability but in the absence of authority. Collier (2011:1) posits that nurses working in the ICUs are overburdened by heavy workloads; hence the environment in these units is markedly stressful. Admi and Moshe-Eilon (2010:151) mention that the most frequently-identified stressors in ICU are workload, role conflict and ambiguity.

Unit managers in the large ICUs encountered challenges with regard to the effective management of their units because their role often changed from that of being a manager to

being a functional nurse responsible for direct patient care. In some situations in the large critical care units, the critical care nurses' role also changed from nurses who only managed their assigned patients, to nurses who must plan, organise, direct and control care by others as part of the unit management function. According to Admi and Moshe-Eilon (2010:152), the responsibilities of the charge nurse include ensuring the proper functioning of the unit during the shift and also maintaining appropriate standards of care, as well as professional and patient interactions. On the other hand, Castledine (2001, quoted in Admi and Moshe-Eilon 2010:153) indicates that the charge nurse is always expected to be available and in control of all activities taking place in the unit. Interestingly, Endacott (1999, quoted in Admi and Moshe-Eilon 2010:153) posits that the charge nurse is not expected to supervise the bedside work of the nurses in patient care but to provide advice and support when their expertise is required.

Lack of protocols was also mentioned as being a challenge in the units, impacting negatively on nursing care. Crofts (2006:362) emphasises that lack of protocols and guidelines contribute to the problems encountered in the ICUs because nurses do not have directives to manage the patients in the absence of the doctors and errors are likely to occur. According to Vincent and Singer (2010:1358), computerised, nurse-run protocols have been suggested as a means of coping with insufficient physician numbers, but would require an increase in the numbers of nursing personnel in order to compensate for their extra workload. An ideal ICU should have protocols and policies in place.

Another challenge identified was with visitors who disrupted the patient care routine by not adhering to visiting times and seeking information about the patient's condition. The AACN (2007:32) indicates that family members experience high levels of stress when relatives are admitted in ICU. This stress can manifest itself as a distrust of hospital staff, thus their constant visits and presence to ICU. The ICU managers indicated that they needed services to support visitors and relatives in the ICU, especially with regard to sharing patient information. Literature indicates that improved communication and openness with patients and their families about diagnoses, prognoses and potential treatments is encouraged in ICUs and that patients as well as their families are now often involved in treatment discussions (Amaral & Rubenfeld 2009:310). Langley and Schmollgruber (2006:60) indicate that family needs should be taken into consideration, because when a patient is critically ill in ICU, the traditional nurse-patient relationship is then often replaced by a nurse-family member relationship. Kelleher (2006:36) also indicates that family involvement in ICU is important.

Limitations of the study

The challenges identified were based on the views of unit managers working in five large ICUs of selected hospitals in one city in Gauteng province. This limits the application of the findings to a wider range of ICUs or even other hospitals in the rest of South Africa.

Recommendations for nursing practice and future research

This article presents to the reader an understanding of the context of a large ICU and the different challenges encountered by the unit managers in these ICUs. The findings of this study may trigger interest in the development of norms for the 12 and more bed ICUs in the country. The recommendation for future research and nursing practice is to develop and implement strategies in order to overcome the challenges faced with regard to the management of large ICUs.

Conclusion

Unit managers working in large ICUs encounter multifaceted challenges which lead to problems with regard to planning, organising, leading and controlling the units. The problems associated with large ICUs related to the size of the units and their encompassing characteristics such as the physical layout and environment, led to challenges such as planning because of a staffing shortage, insufficient provision of equipment and supplies and difficulties in organising and coordinating processes of care. The demand for efficient, sufficient and specialised nurses, as well as adequate up-to-date equipment, along with other such stressors in the ICU, limit the efficient management of the unit. Unit managers also experienced problems with visitors who also needed support.

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Competing interests

The authors declare that they have no financial or personal relationship(s) which may have inappropriately influenced them in writing this article.

Authors' contributions

M.C. Matlakala (University of South Africa), M.C. Bezuidenhout (University of South Africa) and A.D.H. Botha (University of South Africa) were responsible for the title, methodology, analysis and interpretation of data, revision of the manuscript and approval of the final version.

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