FINAL YEAR NURSING STUDENTS' EXPERIENCES WITH ADMINISTERING MEDICATION IN THE CLINICAL SETTING

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ABSTRACT
Medication administration is performed by appropriately qualified nurses in their everyday practice. It is a skill that requires competency and accuracy, and is one that undergraduate nursing students practise – under the supervision of registered nurses – in clinical settings with real medications and real patients. This study aims to develop a substantive theory which offers an explanation of the experiences of these students in these environments.

Nurses play a crucial role in the safe administration of medication within healthcare facilities throughout Australia. Registered nurses learn the process as undergraduate students within universities throughout the nation. Every patient has a right to receive correct medications from nurses who, as undergraduates, have been taught the correct procedure – both in the university environment and in the clinical settings of healthcare facilities in which they undertake their clinical experiences. Whilst both of these learning environments play a crucial role in preparing undergraduate nursing students, little research has been identified to explain what students actually experience in the process of administering medication when they are dealing with real patients and real medications in clinical settings. The following paper reports on a research project in progress which aims to identify the experiences of final-year, undergraduate nursing students administering medications in the clinical setting. Using a grounded theory methodology, it is intended that a substantive theory will be developed to offer an explanation of these experiences.

INTRODUCTION
Medication administration is a role that nurses, who are licensed by their state's or territory's statutory authority, are expected to perform each day. For undergraduate nursing students, this role includes learning from both theory and practice. The practical aspect, being the focus of this study, includes the linking of theory and practice in the clinical setting. In terms of medication administration, students administer real medications to real patients. This requires students and the registered nurses who supervise them, to adhere to safe practice. Safety is fundamental because adverse drug events occur within our hospitals and healthcare settings throughout Australia each year. Pepper (1995) suggests that one in every three adverse drug events occurs when a nurse administers medication. Burke (2005) suggests most medication errors occur at patient care–transition points where nurses are centrally located – including undergraduate nursing students. So, to promote safe practice, as students practise the "fine rights of medication administration", they require direct supervision by registered nurses. The five rights are: the right patient, the right drug, the right dose, the right time, and in the right amount (Crisp and Taylor, 2005). Whilst students are expected to practise these rights and seek direct supervision, experiences within the clinical setting can impact on them as they undergo practice – some of which may influence safety.

For many students, the clinical experience is the pinnacle of the undergraduate nursing program (Brown, Herd, Humphries, and Paton, 2005), and yet for others it is a source of great concern (Langan, 2003). The challenges that confront undergraduate students in these settings are different to those encountered in the practice laboratories of the university setting (Koh, 2002; Young, 1996). Within the safety net of the laboratory setting, students administer simulated medications to mannequins or other students through role play. The environment is safe, and the chance of injury to a mannequin with simulated medication is unlikely. Often, the educator is present in the controlled, laboratory setting offering guidance and direction. The environment within healthcare facilities in which students undertake their clinical experiences is unpredictable and challenging and cannot be controlled to any great extent (Lambert, Glacken, 2004; Yong, 1996). Students are dealing with real patients and real medications and, additionally, they have to ...

... learn to integrate prior theoretical knowledge and practical skills, while taking on board new knowledge, modifying existing practical skills and acquiring new skills. At the same time, they must attempt to relate on a personal level
to patients from varied social backgrounds with multiple physical and psychosocial problems: (and) to their clinical educator (Moore, Hilton, Morris, Caladine, and Bristow, 1997 p. 25).

Whilst the literature discusses many elements that impact on the clinical experience for nursing students, there is little to identify what impacts on them when administering medication in clinical situations. A review of the literature has revealed a plethora of studies surrounding medication administration by registered nurses; however, there is paucity of research regarding the undergraduate student. There is also a gap in research as to what guides their practice of this skill when in the clinical setting.

The aims of this study were to:

- explore what influences the process of medication administration for final-year, undergraduate nursing students when in the clinical setting;
- generate a substantive theory in relation to the influences which shape the process of medication administration for final-year, undergraduate nursing students when in the clinical setting.

**SIGNIFICANCE**

This research could be significant because its outcomes may contribute to medication safety within Australia. To appreciate this it is important to understand that nursing students graduate to become registered nurses, and it is predominantly registered nurses who administer medications in many Australian hospitals and healthcare facilities. It is postulated that the experiences students undergo in the process of administering medication shape their practice of this skill as registered nurses.

Grounded theory was selected as the methodology of choice for this study, with the aim of building theory as opposed to testing theory. The theory evolves during the actual research, through a continuous interplay between analysis and data collection (Strauss and Corbin, 1998).

**METHODOLOGY**

Whilst there are a number of variations of grounded theory methodology, the procedures which were adopted for this study to ultimately build a theory included:

- data collection through in-depth interviews;
- transcription of data;
- continuous collection and analysis of data through
  - open coding of transcripts,
  - selection of theoretically relevant samples based on the categories
  - emerging from the first interviews,
  - memoing,
  - axial coding – noting the possible relationships between the categories and testing this with further data being collected via theoretical sampling,
  - diagramming,
  - identifying a core category;
- development of the substantive theory.

**DATA COLLECTION AND ANALYSIS**

In-depth interviews using a semi-structured approach were selected as the primary means of data collection for this study. Participants were required to be third-year or final-year, undergraduate nursing students who were a preceptored or mentored relationships with registered nurses in the off-campus clinical setting.

Full ethical clearance was sought prior to the data being collected. Letters of information were prepared for 135 students enrolled in their year and final course for the Bachelor of Health Nursing Program. The information included a letter of invitation with an explanation of the research, and a demographic questionnaire.

Timing for the selection of participants was crucial for this study. It was necessary that all participants had been exposed to administering medications whilst undergoing their clinical practicum in the last year of their undergraduate program. For this reason, interviews were not conducted until participants had been in at least two clinical practicums in their final year.

Selection of participants was, and continues to be, guided by the theoretical sampling principles of grounded theory. Theoretical sampling is “… sampling on the basis of emerging concepts, with the aim being to explore the dimensional range or varied conditions along which the concepts of properties vary” (Strauss and Corbin, 1998 p. 73). The process of analysing data using a grounded theory method continues with the researcher reducing the raw data into concepts that can then be designated to stand for categories. As previously stated, the process of
open coding, axial coding, and selective coding (Strauss and Corbin, 1998) has been adopted. Open coding involves the data (interview transcripts) being examined carefully, line by line, and broken down into labels – also known as concepts – and then categories, and compared for similarities and differences. In this study, the interview data continues to be unravelled and sorted into concept labels, then rewoven into categories – which Strauss and Corbin (1998) also refer to as abstract concepts. Axial coding involved relating the categories (developed from the concept labels) to subcategories, along the lines of their properties and dimensions, and looking at how categories cross cut and link (Strauss and Corbin, 1998). The properties are the characteristics of the category, and the dimensions are the range along which the properties vary. Selective coding continues and this is where the categories are integrated and refined (Strauss and Corbin, 1998). The process has been complex and one that has necessitated being organized in managing the data from the outset of the study.

The approach taken thus far to organize the data has been in the creation of files: transcript files, category files, cumulative files, diagramming files, and literature files. The use of files has allowed the researcher to retrieve data easily and keep a continual record of the analysis process. In undertaking both open and axial coding, the researcher has had to think analytically rather than just paraphrasing the data or describing it (Strauss and Corbin, 1998). In an effort to achieve this, theoretical sensitivity, which Bartlett and Payne (1997) describe as having insight into the data and the "... capacity to understand and see what is actually happening in the data" (p. 186), has been employed. This has meant putting in place strategies to deal with personal assumptions and biases. The first strategy was to step back from the data and ask what assumptions and biases existed. As a result, some data was bracketed with memoing about the related biases and assumptions. The second strategy was to talk to the researcher's supervisor on a regular basis about what was going on in the data. This forced the researcher to go back to the data with "blinkers off" and ask questions about the who, what, where, when, and how of the emerging concept labels and categories. Bartlett and Payne (1997), describe the process as steering the researcher to think outside the confines of technical literature and personal experience and promoting the discovery of properties and dimensions in the data.

RESULTS

It is not the intent of the researcher to presume a substantive theory until saturation of data has been reached and the selective coding finalised. Hence, discussion of the substantive theory will not be in the scope of this paper. However, it is clear that categories have repeatedly emerged from the data that will impact upon the final theory and may influence policy development. Categories emerging from this study confirm that central to the safe administration of medications is the clinical setting and the role models within – namely registered nurses. It is here that the skills students learn can, potentially, be transferred over to what they do as registered nurses. How students are taught, the relationships they establish with nurses in a work environment, and the behaviour they adopt in order to survive the clinical experience may, ultimately, influence their performance. If undergraduate nursing students model their behaviour or behaviour that is professional and is supported by those in the clinical arena, then safe medication administration can be facilitated. The results of this study will facilitate the development of a substantive model that allows insight and understanding into the emerging complexities that surround medication administration for undergraduate nursing students.

CONCLUSION

Medication administration requires the nurse to understand all elements of the process, and to be accurate in its application in order to ensure safe patient outcomes. To learn the skill, nurses at an undergraduate level experience theoretical and practical teaching – both in the university and in the clinical setting. Research into the actual experiences of undergraduate students administering medications in the clinical setting is limited. This study continues to explore the experiences that influence the process of medication administration for final year undergraduate nursing students. Because of the lack of literature surrounding this topic, this study is well placed to generate theory, grounded in data that will contribute to the body of knowledge with regard to the concepts identified. The significance of this research is that it can contribute to safe medication administration practices. Importantly, the findings are likely to have applicability for any healthcare organization where undergraduate

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nursing students assume medication administration roles, and in tertiary organizations where the teaching of this skill occurs.

REFERENCES


