A survey of first year student nurses' experiences of learning blood pressure measurement

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Summary   Blood pressure (BP) measurement is an important clinical nursing skill. Informal evaluation triggered concerns about first year student nurses' opportunities to practise it. Therefore 447 first year pre-registration nursing students completed evaluative questionnaires following two 6-week clinical placements. The data were analysed using SPSS v.13 for analysis; open comments were analysed thematically. A third of the respondents ($n = 137$) had pre-course experience in measuring BP. Ninety-five percent ($n = 425$) attended the university skills laboratory session. Only 36% ($n = 158$) of students measured BP using both electronic and manual equipment in both placements and 6% ($n = 27$) did not practise this skill in either placement. Students undergoing non-hospital placements reported fewer practice opportunities. A large number of students reported never having been supervised while measuring BP; they were more likely to be supervised while measuring BP manually than electronically. Students' self-confidence in BP measurement increased over the first year but larger number of students were confident in electronic BP. To conclude, experiences of learning BP measurement varied in terms of opportunities to practise, equipment used, supervision levels and self-confidence. Students' experiences of learning other clinical skills may also differ, which has implications for healthcare education generally.
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Introduction

As educators we are charged with preparing pre-registration nursing students to be fit for purpose and fit for practice. In the United Kingdom (UK), 50% of students' learning occurs in clinical placements (NMC, 2004) where it is expected that mentors will supervise students and provide constructive feedback (NMC, 2006). However, there have been concerns about the variability of students' skills learning in their clinical placements which have affected competence levels at registration (NMC, 2005). Carlisle

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et al. (1999) study highlighted a practical skills deficit in newly qualified nurses.

Blood pressure (BP) measurement is an important nursing skill and it is commonly assumed that student nurses can easily learn BP measurement early in their education (O'Brien and Davison, 1994). However, studies have indicated a generally poor level of training in BP measurement for nurses and doctors (Bove et al., 1989; Gleichmann et al., 1989; Feher et al., 1992; Kemp et al., 1994; Pietz, 1994) and deficits in both performance (Cienki et al., 2004; Drevenhorn et al., 2001; Feher et al., 1992; Bogan et al., 1993; Torrance and Serginson, 1996a) and knowledge (Feher et al., 1992; Kemp et al., 1994; McVicker, 2001; Carney et al., 1999; Armstrong, 2002; Kennedy and Curzio, 1996; Bogan et al., 1993; Torrance and Serginson, 1996b; Nolan and Nolan, 1993; Bagir and Ahmed, 1997; Gleichmann et al., 1989; Markandu et al., 2000). At the authors' university, in a pilot of a manual blood pressure measurement Objective Structured Clinical Examination (OSCE), only 51% passed. Students' informal evaluative comments following this OSCE indicated varied placement opportunities to learn BP measurement which students perceived impacted on their confidence and ability. In particular, practice with manual BP equipment (sphygmomanometer and auscultation with stethoscope) was limited, while practice with electronic equipment using oscillometry was more frequent. As only a few studies have focused on student nurse education, none of which addressed students' placement experiences of BP measurement, there was a need for further investigation.

Therefore in 2006, an anonymous educational audit survey of first year pre-registration nursing students was undertaken to systematically evaluate students' BP measurement experience. The aims were to explore:

(1) Students' pre-course BP measurement experience,
(2) Students' pre-placement skills laboratory BP measurement learning,
(3) Students' opportunities to practise BP measurement during placements with manual and electronic equipment and frequency of supervision,
(4) How levels of self-confidence in BP measurement over the first year of the pre-registration nursing programme varied with different placement experiences.

This paper's focus is on students' experiences of learning to measure BP, including skills laboratory practice and opportunities to rehearse the skill during placements.

Background/literature

Context for skills acquisition in pre-registration nurse education

The Nursing and Midwifery Council (NMC), which regulates the nursing profession in the UK, identifies that all student nurses need to be able to perform clinical skills safely (NMC, 2004, 2007a). UK student nurses must achieve proficiencies within four domains of practice (professional and ethical practice, care delivery, care management, and personal and professional development) to enter the nursing register (NMC, 2004). These proficiencies include skills but the NMC (2007a) recently published more specific guidance about certain groups of skills to be developed during pre-registration nursing programmes. The ability to measure and record vital signs accurately, including blood pressure, was identified as an essential skill for student nurses to achieve prior to commencing the second year of their pre-registration nursing programme.

Development of skills competence and self-confidence

Knowing how to do a practical skill (or motor skill) can be termed 'know-how' type of knowledge — practical expertise and skill that is acquired through practice and experience (Manley, 1997). Lack of a skilled performance can jeopardise both safety and comfort for patients. Learning motor skills, such as BP measurement, requires practice: the opportunity to repeat the skill and gain feedback (Quinn and Hughes, 2007). Therefore, student nurses need opportunities to practise skills and learn from their experience.

Student assessment of their self-confidence in regards to clinical skill acquisition has been used previously as an outcome measure assessing curriculum (Clark et al., 2004) and curriculum change (Farrand et al., 2006). Adequate practice with and without supervision should lead to competency and a resultant sense of self-confidence. Kissinger (1998) concept analysis recognises that overconfidence in nursing practice exists. However, she focuses on clinical decision making rather than clinical skills performance. With a curriculum based on student self-directed learning (O'Shea, 2003), students assessing their self-confidence in