Patient safety in an English pre-registration nursing curriculum

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Summary

This study explored patient safety in an English pre-registration nursing curriculum. The need to improve patient safety has been recognised as a key priority, both nationally and internationally. Education has a crucial role in developing the knowledge, skills and attitudes that promote patient safety. However, evidence about how patient safety is addressed in healthcare professional curricula and how organisations develop safe practitioners is limited.

An organisational case study identified factors affecting patient safety educational provision. Content analysis revealed what aspects of patient safety featured in the formal pre-registration nursing curriculum. Interviews were conducted with students, lecturers and key education stakeholders from various levels of the educational organisation, to explore their perceptions of patient safety and its location in the curriculum and practice.

Patient safety was not explicit in the formal curriculum, but was included in teaching. Students reported gaining most knowledge and experience from clinical practice. The organisational culture of both education and practice was characterised as defensive and closed, and as having an individual versus a systems approach. Findings suggest the need for clarification of the concept of patient safety, as well as revision of curricula and teaching, learning and assessment strategies in order to address patient safety explicitly.

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KEYWORDS

Patient safety; Nursing; Curriculum

Background/ literature

Patient safety is defined as freedom from harm whilst receiving healthcare (DoH, 2000). Estimates of the frequency of patient safety incidents (PSI) vary from 3% to 16% of hospital admissions. The DoH (2000) estimated that 850,000 patients...
suffered PSIs, resulting in £2 billion extra expenditure. The vast majority of PSIs are categorised as preventable; nurses are the last line of defense between the healthcare system and the patient (Reason, 2000). There is considerable evidence that patient safety problems are predominantly system i.e. organisational issues (Reason, 2000), as opposed to individual problems. The need to improve patient safety is a healthcare priority in the United Kingdom (DoH, 2000, 2001; DoH & NPSA, 2001; NPSA, 2003) and internationally (IOM, 1999; NAE & IOM, 2005; Runciman and Moller, 2001; Baker et al., 2004). Recommendations for addressing systems failures include the adoption of a systems approach (Reason, 2000) and changing organisational safety systems and culture (IOM, 1999; DoH & NPSA, 2001; NAE & IOM, 2005). Another recommendation is open reporting, where incidents are reported, analysed and learned from (DoH, 2000; DoH & NPSA, 2001; IOM, 1999; Maddox et al., 2001). These proposals would require a profound cultural shift in the majority of organisations (Helmreich, 2000; Hemman, 2002). Empirical evidence that clearly demonstrates that changing organisational safety systems improves patient outcomes is limited. There is even less evidence that interventions are effective in producing cultural change. Finally, evidence of the impact of education on cultural change and practice is lacking.

Organisational culture is critical to both the effective learning and practice of patient safety (Hart and Hazelgrove, 2001; Hemman, 2002). Helmreich (2000) and Reason (2000) argue that patient safety will only improve if organisational and professional cultures accept the inevitability of error and importance of reporting and learning. This type of open, learning organisational culture requires that those who manage and work in it possess the knowledge and attitudes that promote patient safety (Reason, 2000; Hemman, 2002).

Education has a crucial role in developing the knowledge, skills and attitudes that promote patient safety and facilitate learning from errors (Firth-Cozens, 2001; Henderson et al., 2006). Stevens (2002) and Weinger et al. (2003) argue that despite the increasing focus on patient safety in clinical practice it is slow to achieve strategic recognition in medical and nursing education, and needs to be afforded much greater significance within healthcare professional curricula. Aron and Headrick (2002) and Maddox et al. (2001) propose that medical and nursing students lack the skills necessary to improve patient safety. Currently there is limited evidence evaluating what patient safety knowledge, skills and attitudes healthcare practitioners require, and how well healthcare professionals are prepared for their role in promoting patient safety. Coombes et al. (2005) identified the contribution of simulations in promoting medication safety; Henderson et al. (2006) identified the need for good supervision in clinical practice. There is a lack of research exploring how patient safety is addressed in healthcare curricula (Wakefield et al., 2005). Maddox et al. (2001) suggest that patient safety must become a major theme in health professionals’ curricula.

Methods

Study aims

The study explored patient safety in an English pre-registration degree nursing curriculum, based on the Nursing and Midwifery Council (NMC) 2002 curriculum guidelines. Study objectives were to:

1. Identify patient safety themes in the curriculum (formal and informal).
2. Explore where and how patient safety themes are taught.
3. Examine the assessment of patient safety in theory and practice.
4. Explore factors in the educational milieu that affect the development of students’ knowledge, attitudes and behaviour in relation to patient safety.

Study design

An Organisational Case Study (Altman and Baruch, 1998) identified aspects of the educational milieu that affect teaching and learning about patient safety. Curriculum Analysis (Stake, 2004) was used to investigate patient safety within one pre-registration nursing degree curriculum. Content analysis (Flick, 2002) of the curriculum and clinical documents identified what aspects of patient safety featured in the formal pre-registration undergraduate curriculum, as well as, how they are taught and assessed (see Tables 1a and 1b).

Focus group interviews with students (n = 15) from all three years of the programme, and ten educators who teach on the programme, explored each group’s perception of patient safety and the curriculum content pertaining to patient safety. Factors that impact on learning about patient safety both in university and practice settings were explored via open questions based on the study objectives. (see Table 1b). Semi-structured
individual interviews with six key informants, responsible for the management of educational provision, explored factors that impact upon patient safety education. Sampling took place at three levels of the educational organisation, adopting a micro to macro perspective, moving from the Programme, through School, to Faculty level (see Table 1). A purposive sample of educators and key stakeholders was recruited; student participants were volunteers. Interview data was transcribed and analysed using thematic analysis (Miles and Huberman, 1994; DeSantis and Urgarriza, 2000; Flick, 2002).

### Ethics

Formal ethical approval was received from the University Research Ethics Committee. Potential participants were informed about the study in a Participant Information letter. Participants had at least 7 days to consider participation and sign a consent form. Consent was reconfirmed prior to interview; verbal consent was sought to record interview data. Confidentiality and anonymity was preserved through anonymised codes.

### Findings

Analysis of data from students, educators and key stakeholders identified each group’s perceptions of patient safety and its place in the curriculum and practice. Perspectives of what is regarded as patient safety and what constituted threats to safety varied. Patient safety was not explicitly addressed in the curriculum, which focussed on the related concepts of safe practice, fitness for practice and risk. The educational milieu was characterised as defensive and closed, and as having an individual versus a systems approach to safety. The main themes from the data are presented as a set of dichotomies:- Implicit vs. Explicit; Defensive vs. Open culture and Individual vs. Systems approach. Selected quotations from students (Stu), educators (Ed) and key stakeholders (KS) are provided to illustrate the themes.

### Implicit vs. explicit

**Patient safety**

Students explicitly identified patients as being at the centre of patient safety. Students were acutely

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aware of the prevalence of risks to patient safety in practice. Many had experienced patient safety incidents and near-misses in clinical practice; falls, medication errors and communication failures being the most common. Students perceived that healthcare staff, systems and settings were the major source of threats to safety.

Protection from malpractice, that’s why nurses need to be aware and have abilities and knowledge to make sure our practice doesn’t cause more harm than good. Stu Yr 1

Keeping patients safe, protecting patients from any danger that might occur in a healthcare setting whatever that might be - incorrect meds, falls, infections and violence and other damage. Stu Yr 2

Students conceptualised patient safety as involving similar themes (see Table 2). First years identified Health and Safety; Moving & Handling as patient safety themes. They perceived risks to patient safety as arising from poor practice and unsupervised novice students. First years expressed concern about their low level of supervision from mentors, given their neophyte status and inexperience, and identified their need for much closer, almost constant supervision:

We’re novice practitioners and don’t do anything without supervision... but, you’re left floundering on your own, something serious might happen... a patient might get infection from a dressing you didn’t do right because you weren’t one hundred percent. Stu Yr 1

Second and third year students identified other patient safety themes including falls, infection and violence

I’ve been involved in patients falling and drug errors, lots of students have, I think. Stu Yr 2

Conversely, educators and key education stakeholders focused on the broader aspects of safe practice, risk assessment and management, as opposed to specific patient-focused themes (see Table 3). Common themes included safe practice, medication administration; Health & Safety and Mandatory Training. Education stakeholders perceived risk as primarily arising from individual students’ lack of knowledge and skills.

Curriculum

Patient safety was not identified as an explicit curriculum or programme theme in the pre-registration nursing curriculum (see Table 4). One programme aim referred to ‘safe practice’, specifying “develop safe nursing practice; maintain a safe environment for care and risk assessment and management. The curriculum focuses on safe practice, competency, health and safety, safe environment and risk assessment reflects the current NMC focus on individual competence.

Patient safety was implicit and integrated, rather than explicit and clearly identifiable in theoretical learning and practice outcomes.

I don’t know how often the word safety gets mentioned in the curriculum. It’s implicit.... I wonder whether you could frame it in terms of patient safety, actually change the focus. KS 1

One educator reflected on the perspective adopted:

I wonder as we’re discussing now, how often in my teaching I talk about risk and don’t mention the word safety, talking about patient safety puts a different slant on what counts as patient safety. Ed 4

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<td><strong>Patient safety themes</strong></td>
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Key education stakeholders’ primary concern was ensuring that the curriculum addressed contractual and legal requirements.

We certainly focus on all the legal requirements in terms of medicines, mandatory skills, lifting and handling, infection control. I think all that is covered, from my recollection of curriculum documents. KS 3

Patient safety was perceived as having a low profile in both educational settings:

I don’t think it’s singled out as an entity, it’s a priority, but not singled out as a huge, the most important thing in the School, or Trusts. It blends in with everything. Whether it should be another question. KS 3

Despite the lack of explicit patient safety learning objectives, educators reported supplementing the formal curriculum to address patient safety in the unit they were responsible for teaching. One educator explained that safety was built into problem-based learning (PBL) scenarios:

In year two and three PBL we deliberately build into the scenario factors around safety, risk that we expect students to identify they need to investigate. Ed 10

One educator was confident that patient safety was addressed and assessed in theory and practice:

it comes in the theoretical units, but it’s also an outcome in all practice assessment documents, the mentor signs to say they practice safely at
Risk assessment and management is addressed as a key outcome in all modules. The practice assessment document they need to get signed off has specific stuff around safe administration of medication, moving and handling.

Students identified that patient safety was not an explicit curriculum theme. However, they recognized that patient safety principles were integrated in lectures, but that students had to identify the themes and make the connection themselves:

there’s not a module called patient safety, it wasn’t highlighted specifically, it was just basically talking. I mean we can relate it, yes it’s talking about patient safety, but it wasn’t specifically taught as patient safety in the curriculum as such. You pick up bits and pieces about safety of patients, we can pinpoint bits that are patient safety, but there wasn’t actually a deep discussion into patient safety.

One stakeholder expressed reservations about the clarity and profile of patient safety in the curriculum:

this issue, and some others, aren’t really addressed as clearly and appropriately and clearly identified in the curriculum as they should be… It has to be core, threaded through in a meaningful way. I’m unhappy about the way some things are threaded through the curriculum. We need to be far tighter - making sure these are revisited. In a course like nursing, and medicine - any vocational course where you’re let loose on real people, we need to make sure it’s clearly identified.

Whilst two suggested reframing/ refocusing the curriculum:

We could actually frame the whole curriculum around that concept and still cover everything. It’s implicitly, everything we do is about that, everything we teach is around that whole concept, but it’s not explicit…maybe that’s a theme for the future. I certainly haven’t seen it picked up in any themes written in curricula.

Assessment

No theoretical assessments focused explicitly on patient safety. The programme aim referring to ‘safe practice’ was replicated as core and unit specific clinical learning outcomes in Practice Assessment Documents. Educators and Key stakeholders stated that mentors assessed students’ competence to practice safely and signed Practice Assessment Documents to certify this. However, reservations about the reliability of mentors’ assessments were expressed by students, educators and key stakeholders. Students questioned the reliability of mentors’ assessments, as they do not often work with students they are assessing:

they [University] don’t assess it, they leave that to the hospital mentors to assess. Mentors just have to tick the box, they don’t take it that seriously… If you’ve not worked with your mentor, and more often than not you don’t, how do they know you’re safe…, but they tick the box…

they [mentors] don’t have time to teach you, there are not enough mentors and too many students. It’s hard to get people to teach you. I’m not being assessed by anyone formally.

Educators expressed reservations about mentors teaching and assessment of students’ competence:

there’s always uncertainty about whether students are safe or good at practice. We expect all skills to be taught out there in practice, but we have no measuring tool of how effective that practice and assessment is.

Standards of clinical assessments were questioned by both educators and key stakeholders:

we rely heavily on clinical colleagues to assess students’ competence, but we know that on occasion they are not prepared to fail students who should not pass, so the failure-to-fail aspect is present in clinical practice. This is obviously a very strong aspect of safety.

students have to demonstrate themselves as safe practitioners…the difficulty is how that’s judged and who judges it, as well the standards across the whole of the placements.

Two key stakeholders expressed disquiet that there was no double-checking of the reliability of mentor’s assessments of students’ competence. Although students, educators and key stakeholders all expressed unease about the quality of clinical assessment they were unaware that others shared their reservations. None of the groups had formally raised their concerns about clinical assessments. Not raising concerns could be related to perceptions of the organisational culture of the educational settings, i.e. university and practice, which was characterised as closed, blaming, and having an individual approach (see Table 5).
Defensive, closed, blaming vs. open, learning culture

Students, Educators and Key Stakeholders perceived that the organisational culture of the practice setting was defensive, concealing and blaming:

there’s a lot of blame, . . . filling out incident forms people do try and hide them, play them down  Stu Yr 3

One key stakeholder identified a policy-practice gap in the NHS organisational safety culture:

there should be a no-blame culture in the NHS environments where students are working, yet the evidence suggests that there’s still a reluctance on the part of qualified staff to report things like drug errors and things like that.  KS 1

Students reported feeling unprepared to deal with, and learn from safety incidents, because of the “blaming” culture of the clinical learning environment. Several described reluctance to report incidents, because of the closed culture in some practice placements:

you open your mouth and you get yourself into even deeper trouble, or nothing changes . . . some of the staff on some wards are like musketeers, one for everybody and everybody for one - which means nothing changes, you make a fool out of yourself and nothing changes.  Stu Yr 2

Students also reported feeling “vulnerable”. Their need to “fit in” and pass clinical assessments made them feel unable to challenge unsafe practice because of the risk of victimisation:

that makes you feel really bad when you see something that shouldn’t be happening. But you don’t feel you can say, ‘cause it’s not worth it, because the rest of my placement will be awful; I know it will be. So if that patient suffers, their safety’s compromised, you go home feeling guilty, but you really don’t want that.  Stu Yr 3

Many students described a defensive, “backwatching” culture, where the first priority was to protect yourself, rather than protecting patients:

we’ve been taught things you could get sued for, if you’ve got bad infection control you could be very accountable for that . . . and bad manual handling. There’s more kind of our safety, to cover our backs, and not the patients. It’s not
from the patient’s point of view, it’s from ours. Stu Yr 3

protecting our back, they were saying you need to record everything because if it came to litigation you need to have that from the safety point of view, a lot of clinical staff was talking about if anything happened you had to cover your back Stu Yr 2

A key stakeholder identified defensive "back-watching" aspects in the educational organisation:

it’s more about protecting staff or systems from potential litigation...and that distorts the focus. Our main concern should be about patient safety, but often it’s about protecting ourselves and watching our own backs" KS 1

Another key stakeholder identified the educational organisation’s vulnerability:

If we haven’t been seen to be providing the educational input, if something does go wrong then really we’re very vulnerable as an organisation KS 5

Educators and key stakeholders also referred to the 'failure-to-fail aspect in practice' (Ed 6), which was perceived as indicative of a defensive, self-protective organisational culture. Remarks about defensive practice and back-watching are also indications of an individual approach.

Individual vs. systems approach

Both educational settings were characterised as having an individual rather than a systems approach (Reason, 2000), i.e. a focus on the individual rather than system-related issues. Awareness of a 'systems approach', i.e. organisational systems, processes and culture as major contributory factors, was barely discernable. The curriculum focus on students' fitness for practice and competence provides evidence of the individual approach. Educators and key stakeholders' perspectives on risks to patient safety as arising from individual students’ lack of knowledge and skills is further evidence of an individual approach;

They’ve been very much issues around the individual students not functioning appropriately..., rather than around the practice environment or systems and processes that are in place KS 1

Although key stakeholders frequently used the term 'systems' they were referring to organisational systems that identify and manage 'problem students'. Education stakeholders described organisational structures and processes e.g. practice assessment strategies and fitness to practice committees, which prevent individual students progressing when they are not competent/fit to practice safely. Stevens (2002) labels these ‘organisational defenses’. Key stakeholders expressed confidence in the appropriateness and effectiveness of organisational systems:

There’s a system in place, I do feel the system is there and we can be fairly confident in it, I think it’s a very safe system KS 3

Whilst the individual approach is congruent with NMC curriculum and the educational organisations’ contractual, legal and statutory requirements, it is contrary to current recommendations for a systems approach.

Limitations

Findings from this small study should be considered in terms of limitations of the design and sample. Student participants were a small, self-selected sample, from one case study site. Themes were construed from data provided by the participants. High levels of consensus suggest that emergent themes were common and 'fit' with the limited amount of existing evidence. This small, exploratory study identified a number of findings that require further research, including validation using larger, more representative samples.

Discussion

The finding that patient safety is not explicitly addressed in the pre-registration nursing curriculum is congruent with the limited amount of evidence in this field by Maddox et al. (2001), Aron and Headrick (2002), Stevens (2002) and Weinger et al. (2003). Analysis of the current Nursing and Midwifery Council curriculum guidelines for pre-registration nursing education in the UK provides a rationale for the lack of emphasis on patient safety in the formal curriculum. The NMC, 2002 document outlining the Requirements for Pre-Registration Nursing Programmes, ‘Protecting the Public through Professional Standards’, contains four recommendations related to patient safety. However, these focus more broadly upon unsafe practice, competency, health and safety, safe environment and risk assessment, rather than specifically on patient safety. Lack of explicit reference to patient safety in the formal curriculum, does not mean that educators do not address patient safety. Educators reported teaching patient safety, but acknowledged that it was implicit and integrated. Students supported this assertion, but
identified that the integrated approach required students to identify the themes and make the connection themselves. The need for good supervision in clinical practice to facilitate learning is crucial (Henderson et al., 2006). This evidence conflicts with observations that mentors allocate insufficient time to teaching, supervising and assessing students. Reservations expressed by key stakeholders, educators and students about the reliability of clinical assessments gives cause for concern, and require further investigation.

The educational organisations’ prioritisation of statutory training and emphasis on risk management is congruent with their contractual and statutory requirements. The individual versus systems approach, and primary focus on organisational defences, i.e. rules and systems, fits with the limited evidence on organisational safety culture (Helmreich, 2000; Reason, 2000; Hart and Hazelgrove, 2001) and defensive ‘‘back-watching’’ NHS culture (Annandale, 1996; Hemman, 2002; Stevens, 2002). However, this approach is contrary to current evidence and policy guidance. Unless educational organisations teach a systems approach that considers all the circumstances that affect individuals’ performance, i.e. human and organisational factors, learning will not occur and patient safety will not improve.

Conclusions

The curriculum focus on the related, but not equivalent concepts of safe practice, competency, health and safety, safe environment and risk, rather than patient safety, reflects the NMC, 2002 curriculum directive. Curriculum guidance needs to be revised to reflect the primacy of patient safety in contemporary clinical practice and ensure that patient safety becomes a major, explicit theme developed consistently throughout healthcare professional curricula. Teaching, learning and assessment strategies will need revision in order to focus explicitly on patient safety. Learning could be facilitated through specific lectures, PBL scenarios, case studies, critical incident analysis and simulation, and assessed via learning outcomes that focus explicitly on patient safety. Clinical assessments need to be re-examined to ensure that students are competent to practice safely. Although, nursing was the discipline studied, conclusions may be applicable to healthcare education in other disciplines. Patient safety is a joint healthcare priority, which could become an interprofessional curriculum theme.

Acknowledgement

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