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The perceived impact of advanced practice nurses (APNs) on promoting evidence-based practice amongst frontline nurses: findings from a collective case study

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Abstract
The aim of this study was to explore the perceived impact of advanced practice nurses in promoting evidence-based practice amongst frontline nurses. A collective instrumental case study was undertaken involving five extended case studies and eighteen short case studies in a range of hospital and primary care settings across seven Strategic Health Authorities in England.

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The study participants were a purposive sample of 23 advanced practice nurses selected to represent a range of settings, clinical specialities, organisational responsibilities and ways of working. In-depth interviews were undertaken with the advanced practice nurse and up to 10 interviews with health care professionals with whom they worked. For the extended case studies, non-participant observation and follow-up interviews were also undertaken. Data analysis drew on the principles of the Framework approach.

From the perspectives of the participants, these advanced practice nurses enhanced the ability of frontline nurses to provide evidence-based care. They improved the competence, knowledge and skills of frontline nurses and empowered them to deliver care which they considered to be safer, holistic, more timely and of a higher standard. This is likely to have a positive effect on patient outcomes and on patient experience. However, this impact is inherently hard to capture.

Keywords
advanced nursing practice, case study research, evidence-based practice, nursing

Introduction

The context in which nurses practise is characterised by increased patient acuity and complexity of care, heightened expectations from users of healthcare services, greater use of technology, and increased accountability for providing clinically and cost-effective care (DoH 2010a, 2011). These are global issues and to rise to these challenges nurses need to use the best evidence to inform their practice. The World Health Organisation have consistently endorsed the importance of strengthening nursing and midwifery practice through the application of sound evidence (WHO 2003, WHO 2010). Evidence-based practice (EBP) is seen as integrating the best evidence from a range of sources including research, clinical expertise and individual preferences (Bucknall and Rycroft-Malone, 2010). However, frontline nurses (FLNs) experience significant challenges at both individual and organisational levels in achieving the goal of EBP. Within the international literature there is remarkable similarity in the nature of these obstacles. Carlson and Plonczynski (2008) note consistency in reported barriers to research utilisation across 45 studies set in the USA, the UK and other countries. The commonest barriers were organisational, including insufficient time for nurses to implement new ideas and lack of time to read research. Lack of authority to change patient care and lack of support from physicians and managers were also frequently cited. The importance of equipping FLNs with appropriate skills for EBP was highlighted in a systematic review which identified a positive association between research utilisation and a number of individual characteristics including a positive attitude towards research, attending conferences and/or in-service training and having a degree (Squires et al., 2011).

APNs work in diverse roles and demonstrate a range of expert knowledge and advanced clinical skills. The aim of this study was to explore their impact in promoting EBP amongst FLNs. Goudreau (2007) and Profetto-McGrath et al. (2010) assert that APNs are well equipped to help FLNs implement evidence-based change. Although it is widely acknowledged that APNs have key role in promoting EBP (Davies et al., 2006) among FLNs there is a paucity of research examining how APNs fulfil this expectation and what impact their influence may have. Several studies have identified that FLNs draw heavily on

experiential knowledge and information derived from the workplace to inform their practice, rather than research (Estabrooks et al., 2005, Gerrish et al., 2008, Thompson et al., 2001a). Senior professional colleagues are a notable source of such information. Thompson et al. (2001b) identified that clinical nurse specialists in the UK have an important role in disseminating evidence-based information to FLNs, and Milner et al. (2005) confirmed that clinical educators in Canada have a similar responsibility.

A recent UK cross-sectional survey of APNs identified that they were actively involved in setting evidence-based standards and developing clinical guidelines which subsequently influenced FLNs' practice (Gerrish et al., 2011). The survey showed that APNs also promoted EBP by working with FLNs in clinical settings and supplying evidence at the point of care delivery, acting as a resource, distributing evidence-based information, and supporting FLNs to introduce change.

Although the *processes* whereby APNs promote evidence-based practice have been identified in previous studies, there is little research that has examined the *impact* that such activities have on FLNs. Most research examining the impact of APNs has focused on the impact of changes in skill mix, when APNs undertake roles traditionally performed by medical staff (e.g. Caird et al., 2010, Carter & Chochinov, 2007, Horrocks et al., 2002, Laurant et al., 2005) rather than their impact on FLNs.

APNs are a growing presence internationally. As countries reform health systems and seek innovative solutions to increased demand for healthcare alongside economic constraints, APN roles have flourished (Schober and Affara, 2006). Studies examining the implementation of a variety of APN posts in the UK (e.g. Guest et al., 2004, Kirshbaum et al., 2004, McKenna et al., 2008, Read et al., 2004) all highlighted the role that APNs play in the provision of clinical leadership and service development. However, there was limited consideration of their role in promoting EBP and in capturing the impact of these posts.

In summary, there is a clear expectation that APNs should promote EBP among FLNs. Although there has been some research illuminating the processes whereby they promote EBP, there is a lack of research examining the impact of this aspect of their role.

Methodology

Aim

The aim of this paper is to examine the perceived impact of APNs in promoting evidence-based practice to FLNs.

Design

A multiple case study design involving APNs working in acute and primary care settings was selected in order to develop an understanding of the context in which the APNs worked and the people with whom they interacted.

Sampling

For the purpose of the study, the term 'advanced practice nurse' was used to describe nurses whose roles included an element of clinical involvement in which they demonstrated expert knowledge and skill. This included clinical nurse specialists (CNS), nurse consultants, practice development nurses, matrons, clinical educators and nurse practitioners.

A purposive sampling strategy was developed, based on information gathered in an earlier survey of APNs (Gerrish et al., 2011) across seven Strategic Health Authorities (SHAs) in England to capture the varied ways in which APNs promoted EBP. The sampling frame consisted of a subset of survey respondents who had indicated their interest in participating in case studies. A sampling matrix was developed, based on data collected in the survey which considered the following:

- APN role, e.g. CNS
- Clinical specialty, e.g. stroke
- Focus of role, e.g. clinical specialism
- Types of organisation, e.g. hospital or primary care trust
- Organisational responsibilities e.g. single ward/department, whole/several organisations
- Ways of working with FLNs
- Innovative approaches to promoting EBP
- Geographical location

The sampling strategy sought maximum variation across these criteria. Twenty three APNs were recruited. APNs were asked to identify professional colleagues (e.g. FLNs, other APNs, doctors, nurse managers) who could provide a perspective on their role in promoting EBP among FLNs.

Data collection

Eighteen case studies involved interviews with the APN and up to five healthcare professionals with whom they worked. An additional five 'extended' case studies involved interviews with the APN and a broader range of up to 10 healthcare professionals to explore understandings of EBP, views on the APN role in promoting EBP and factors which affected the ability to promote EBP amongst FLNs. Non-participant observation was also undertaken: this involved a member of the research team shadowing the APN for a day as s/he went about their normal duties in order to gain further insight into their role in promoting EBP. Detailed fieldnotes were recorded and a follow-up interview with the APN was undertaken to provide the opportunity to reflect upon the observations.

Methods of data collection are summarised in Table 1.

Ethical considerations

Ethical approval was obtained from an NHS Multi-site Research Ethics Committee and research governance approval from participating organisations. Participants were provided with an information sheet outlining the purpose of the study and strategies to ensure confidentiality. Written informed consent was obtained from all participants.

Data analysis

Interviews were audio-recorded and transcribed. Detailed fieldnotes of observations were recorded and analysed alongside interview transcripts. Data analysis drew upon the principles of the 'Framework' approach to qualitative analysis (Ritchie et al., 2003). This approach provides a clearly defined structure for analysis through

Table 1. Summary of data collection

Case Study ($n = 23$)	Participant	Data collection
Standard ($n = 18$)	Advanced practice nurse	In-depth individual interview
	FLNs and other healthcare staff	Semi structured individual interview (5 per case study)
Extended ($n = 5$)	Advanced practice nurse	In-depth individual interview
		Non-participant observation (1 day)
		Follow up in-depth interview
	FLNs, other healthcare staff and senior managers	Semi structured individual interview (approximately 10 per case study)

FLN = Front Line Nurse.

five techniques: familiarisation, developing a thematic framework, indexing, charting, mapping and interpretation. The approach was adapted to the requirements of a large research team and a complex study. In Stage 1 researchers familiarised themselves with data and shared their initial impressions to provide a collective overview of the material. This led to the identification of initial themes which were then cross-referenced with topics from the interview schedule and developed into a thematic coding framework (Stage 2). This framework was applied to individual case study data by systematically coding the transcripts and fieldnotes (Stage 3) and then drawing together the coded data to provide a matrix of data for each case study (Stage 4). Cross-case analysis was undertaken by mapping the relationships between different themes across the whole dataset. This enabled cross-cutting themes which were shared across case studies to be identified as well as differentiating the contextual issues which were particular to individual cases. Finally the themes and sub-themes were used to construct an account of the impact of APNs in promoting EBP among FLNs (Stage 5). Regular meetings of the research team were held to check understanding and ensure consistency in interpretation of themes.

Results

Characteristics of the case study sample are shown in Table 2.

Data analysis revealed a number of themes. We begin below with the perceived challenges of demonstrating the impact of the activity of APNs from the perspectives of case study participants.

Challenges in demonstrating the impact of APNs on FLNs

Attempting to capture APNs' impact in promoting EBP among FLNs was complex due to the diversity of APN roles in terms of clinical speciality, ways of working with FLNs and organisational responsibilities. However, three broad dimensions of APNs' impact were

Table 2. Characteristics of the APN sample

Title of post	Focus of post	Location
Clinical nurse specialist	Acute pain management	Hospital
Clinical nurse specialist	Cardiac	Hospital
Clinical nurse specialist	Nutrition support	Hospital
Lead nurse specialist breast care*	Breast care	Hospital
Lead nurse infection control	Infection control	Hospital
Older people outreach nurse	Older people	Hospital
Stroke nurse co-ordinator *	Stroke	Hospital
Matron	Cardiac services	Hospital
Matron*	Renal dialysis	Hospital
Nurse consultant	Back pain	Hospital
Nurse consultant	Infection control	Hospital
Practice development nurse	Cancer	Hospital
Practice development nurse	Critical Care	Hospital
Clinical nurse specialist	Falls prevention	Primary Care Trust
Clinical nurse specialist	Tissue viability	Primary Care Trust
TB nurse specialist	Tuberculosis services	Primary Care Trust
Elderly care nurse specialist*	Nursing/residential care home sector	Primary Care Trust
Lead nurse for care homes	Nursing/residential care home sector	Primary Care Trust
Community matron	Long term conditions	Primary Care Trust
Nurse consultant*	Palliative care	Primary Care Trust
Nurse consultant	Sexual health	Primary Care Trust
Nurse consultant	Stroke	Primary Care Trust
Nurse practitioner	Primary care	Primary Care Trust

*Extended case studies.
APN = Advanced Practice Nurse.

identified from the data (see Figure 1). These were not mutually exclusive: any impact could be modelled in one or more dimension.

- *Direct* where the impact was on the recipient of the APN's intervention or *indirect* where the effect was mediated through another person. Thus, for example, APNs had a direct impact on developing the skills of FLNs but an indirect impact on patients cared for by the FLNs.
- *Immediate* where the impact was observed straight away or *delayed* where there was a time-lag before the impact may be experienced. An APN had an immediate and direct impact on FLNs' knowledge when providing a teaching session but there might be a delay before FLNs put their learning into practice.
- *Intentional* where the impact arose from purposeful action or *unintentional* where the effect was inadvertent. In a busy clinical environment, APNs may *directly* seek to reduce FLNs' workload by taking on responsibility for an aspect of care. However, if FLNs subsequently relinquished responsibility for that aspect of care, the *unintentional* impact may be to disempower FLNs.

The impact of APNs in promoting EBP among FLNs is summarised under three themes: developing competence, empowering FLNs and improving care provided by FLNs.

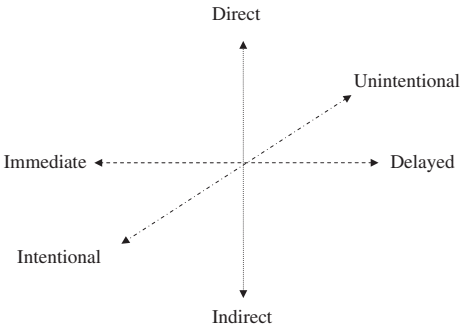

Figure 1. Dimensions of APN impact
APN=Advanced Practice Nurse.

Developing competence

There was agreement among all participants that APNs impacted positively on developing the competence of FLNs. There were two aspects to this.

Firstly, all APNs engaged in education activities intended to increase the knowledge and skills of FLNs to enable them to provide more effective care. This was achieved through a variety of means including in-house training and contributing to university-based courses. Examples were provided of APNs identifying training needs of FLNs and initiating activities to meet these needs. The impetus was usually to support an APN-led initiative such as the implementation of clinical guidelines. However, the evidence that these activities had an impact was largely subjective. Whereas APNs evaluated their teaching in terms of learner satisfaction, there was little attempt to directly evaluate the effect of learning on FLNs' performance. One notable exception was a CNS in pain management who provided study days on managing the care of patients receiving patient-controlled and epidural anaesthesia and subsequently formally assessed nurses' competence.

APNs also used opportunities in clinical settings to develop FLNs' competence. Such activity often had a direct and immediate impact on care as it was focused on the needs of particular patients or clinical problems. For example, when visiting a ward, a nutrition support nurse specialist took the opportunity to advise FLNs on the correct placement of feeding tubes. Several APNs created shadowing or secondment opportunities for FLNs to develop their competence further and apply knowledge gained to patient care:

> I was seconded part-time to the acute pain team, working alongside specialist nurses. I have a couple of months still to go but already the experience has impacted on my ward work. I feel much better able to assess patients for pain and know what options are available for them. *(staff nurse)*

Evidence of the APNs' impact on developing FLNs' competence through their interactions in practice settings was largely subjective as little formal evaluation had been undertaken.

Secondly, some APNs provided training to develop new competencies which enabled FLNs to extend their scope of practice as the following observations from fieldnotes demonstrate:

> The nurse specialist in falls prevention taught a health care assistant in a district nursing team to undertake evidence-based home exercise programmes for older people who were at risk of falling and were unable to travel to classes held centrally.

> The lead nurse specialist breast care taught senior staff nurses to undertake seroma drainage of surgical wounds in order to provide improved continuity of care for patients.

APNs subsequently assessed the competence of these staff and this provided them with evidence of their direct impact on FLNs. However, this was not generally followed through to monitor the indirect impact of these initiatives on patient care.

Empowerment

APNs' impact through empowering FLNs to provide evidence-based care was highlighted by many participants. FLNs identified APNs who empowered them to solve clinical problems themselves, thereby having a direct impact on FLNs' ability to engage in the challenges of EBP. They encouraged FLNs to think through options and alternatives rather than simply providing them with information and 'telling them what to do':

> It's about providing FLNs with information and explanation. It's not just 'this is your problem, do this'. It's 'these are the things you could do in this situation, you might want to try this, and this is the reason why I am suggesting it' so that when they come across something similar they understand the rationale for the options and can make their own decision, rather than follow a set of rules and do the same thing every time.... It's about providing information, the rationale and the support to empower them. *(nurse manager)*

Several FLNs provided illustrations of how, by enhancing their knowledge and skills, APNs had enabled them to act as a resource to colleagues.

> She (tissue viability nurse specialist) updates us (link nurses) on the latest guidelines and research... Being a link nurse has given me the knowledge about tissue viability and the confidence to share it with others. I take the lead for tissue viability within my team, other team members now refer to me for advice. *(staff nurse)*

FLNs felt that APNs had helped them become more empowered in their interactions with doctors: they felt more able to contribute their perspective and to constructively question medical decisions where appropriate.

> I feel the nurse consultant has given us really clear guidance, given us that teaching to develop our knowledge and skills, and so has actually empowered us to be more proactive and assertive. Because we have more knowledge about the end stage of dementia we can be proactive with junior doctors who come onto the ward and we can say 'this is what we need to do'. *(ward manager)*

Part of the process of empowerment involved APNs nurturing a climate in which practice could be questioned.

> It's about getting FLNs to be more questioning of what they are doing. Get them to look at alternatives and challenge the traditional ways that we have always done things. Being enabled to put forward ideas without feeling intimidated. *(APN)*

There was also some evidence that APNs could have an unintentional impact by disempowering FLNs. For example, a CNS with responsibility for nursing homes obtained information in response to requests from FLNs who were 'too busy' to undertake literature searches themselves. This could be interpreted as empowering FLNs

by providing them with knowledge to develop care. However, the very act of 'doing for' rather than 'enabling people to do for themselves' could be seen as having the unintentional consequence of disempowering. There were two aspects to this. Firstly, APNs might choose to retain responsibility for patient care, rather than more actively engaging FLNs.

> We've got some excellent specialist nurses who are very effective at facilitating staff in developing their skills and planning care for patients. However, I think it's very easy for staff to call in a specialist nurse and then think 'oh that's their problem now it's not my problem'. It's the deskilling that concerns me. I think some of it does depend on the specialist nurse and how they use their skills because if they come in and take ownership of the problem then staff very quickly can abdicate responsibility. *(matron)*

Secondly, services may be reconfigured with APNs taking over aspects of patient care previously done by FLNs. For example a central APN-led treatment unit provided more timely care for patients as ward-based staff struggled to do dressings taking two hours to complete. However, this had the effect of FLNs feeling less skilled in wound management. In contrast to the earlier examples of APNs who were keen to share their knowledge with FLNs and were seen as a rich resource of up-to-date knowledge, these illustrations indicate the potentially disempowering effects when APNs disengage with FLNs who may then not only lose access to up-to-date information but also the opportunity to apply the knowledge in practice.

In addition to evidence that APNs empowered FLNs through developing their competence, confidence and decision-making ability, there was also evidence that APNs impacted on the practice of FLNs more directly.

Improving care provided by FLNs

APNs influenced the care provided by FLNs. This often involved 'trouble-shooting' activity focused on detecting and/or solving clinical problems. There were many instances of clinical situations where we observed that APNs' intervention led to changes in care that FLNs provided. Such intervention formed a major component of many APN roles and was valued highly by FLNs as it enabled them to provide more appropriate care.

APNs sometimes intervened when care fell below acceptable standards and compromised patient safety or well-being. Such remedial intervention often related to fundamental aspects of care such as nutrition, prevention of pressure sores or infection control. This was often achieved through intervening opportunistically in the clinical area:

- A nurse consultant in palliative care intervened to improve the assessment of a patient's nutritional needs which led to FLNs providing more appropriate nutritional support.
- A lead nurse for infection control challenged FLNs regarding cross infection from poor hand-washing technique.

As these examples illustrate, the evidence that was put into practice here was not 'cutting edge', complex technical knowledge, which only an APN might be conversant with, but fundamental principles which were nonetheless being neglected.

APNs also intervened when evidence-based guidelines were not being followed:

> We launched sharp debridement guidelines based on NICE guidance . . . It came to our attention that some nurses were using sharp debridement with no formal training. This was recognised to be high clinical risk. We audited awareness and compliance with the guidelines and it identified that nearly everyone who responded was doing sharp debridement despite claiming to be aware of what the guideline said. It flagged up an issue for us as an organisation so the clinical effectiveness group have mandated that we re-audit having put in work to raise people's awareness of the policy. *(APN)*

APNs exerted an impact by overseeing and monitoring FLNs' practice to ensure that appropriate standards were maintained. For example, the CNS in pain management undertook an on-going audit of patients' perception of post-operative pain management to monitor whether pain control was being appropriately managed by FLNs in accordance with evidence-based protocols. Shortfalls in pain management were identified promptly and interventions instigated by the CNS to maintain standards.

APNs also promoted a holistic approach to care among FLNs, on some occasions by challenging nurses directly to think more broadly about their patients rather than focusing on a specific problem:

> District nurses just tend to look at the wound. . . When I've been on visits with nurses they don't have time to do that holistic assessment. I've been looking at developing a care pathway for wound care based on wound-bed preparation which brings the patient to the centre of care, gets people to look at the person, what has caused the wound and how it might heal rather than just focus on the wound itself. If you don't do something about the cause of the wound, then it won't heal. *(APN)*

There was evidence that APNs had improved the management of treatments in their specialist fields by introducing evidence-based protocols, guidelines and policies. Several APNs had audited the impact of guidelines on FLNs' practice and the care received by patients. However, robust evidence of their direct impact on FLNs and indirect impact on patient care through influencing the practice of FLNs was lacking.

Discussion

Limitations

Several issues should be taken into account when considering the inferences that can be drawn from this study. Firstly, we purposively sampled APNs who (on the basis of a national survey of APNs) appeared to be active in promoting EBP, in order to identify factors contributing to success and highlight innovative approaches from which others could learn. This should be borne in mind when considering the transferability of the findings. Nonetheless, participants did share with us accounts of other APNs who they perceived were less effective in promoting EBP, for example the unintentional disempowering impact of some APNs.

In addition, we relied on APNs to identify stakeholders whom we could interview. Inevitably this means that there may be a degree of selection bias if APNs identified individuals who would paint a favourable picture. In reality, this did not appear to be the case as some stakeholders gave quite critical accounts of the APN's role in promoting EBP.

Discussion of findings

The findings provide evidence of the multi-faceted impact of APNs in promoting EBP among FLNs. This included developing the competence of FLNs to provide EBP, empowering FLNs to draw upon evidence in their practice and in encounters with other healthcare professionals, and creating a culture in which FLNs were more questioning. In addition, APNs exerted a positive impact on the care provided by FLNs by remedying shortfalls in standards of care and promoting a holistic approach to care. Although the study was undertaken in England, the fact that APNs internationally are identified as having responsibility for providing leadership in EBP and promoting EBP among FLNs indicates that the findings have relevance beyond the UK. However, inter-country variation in APN roles and practice contexts will inevitably affect the influence that APNs exert.

The evidence which underpinned these improvements in knowledge and standards of care came from a variety of sources. In some cases this came from research reports or evidence-based protocols. In other instances the nature of evidence was broader, for example knowledge of the individual patient, clinical expertise and organisational evidence such as audit. Rycroft-Malone discusses the shifting views about what constitutes evidence and argues that the term 'evidence-informed practice' might be more appropriate than EBP since research is now viewed as only one of the catalysts for decision-making in practice (Rycroft-Malone, 2008).

It is recognised that the impact of APNs identified here relied on subjective accounts from APNs and their colleagues. Although some APNs reported that they had collected objective evidence of their impact on FLNs through audit activities, for example formal assessments of FLNs' competency, such evidence was not considered as part of this study. Other studies which identify the impact of APNs on the care provided by FLNs, e.g. Guest et al.'s (2004) study of nurse consultants, similarly relied on self-reporting of impact. However, the consistency in the reporting of impact across a wide range of APNs and their respective stakeholders gives some confidence in the findings from the current study which reports a largely positive impact of APNs. Nevertheless, there is clearly a need for studies which seek to collect objective evidence of the *actual* impact of APNs which should also include their direct impact on patient experience and patient outcomes.

However, measuring the impact of APNs on FLNs is inherently difficult. The framework for conceptualising impact which emerged through this study illustrates this. Although it may be relatively straightforward to collate evidence of APNs interactions with FLNs which lead to a direct, immediate, and intentional impact, such as an increase in knowledge or skills following training, impacts which are indirect, delayed or unintentional are much harder to demonstrate.

Such problems are acknowledged in the wider literature. Not only do APNs often achieve their impact on patients indirectly, by influencing the practice of others, their involvement as a member of the multi-disciplinary team makes it difficult to differentiate clearly between the impact of the APNs and that of team members (Guest et al., 2004). It is also acknowledged that variability across APN roles and within particular roles (e.g. clinical nurse specialist) makes it extremely difficult to make definitive statements about the impact of APNs as a collective.

Nevertheless, the challenge remains, for as Cunningham (2004) highlights: 'Articulating how, why and for whom they (APNs) add value is critical to the future viability of the APN role and the delivery of quality healthcare services to the public' (p. 219).

In the UK, recent policy reforms have highlighted the pivotal role of nurses in driving up quality within the NHS. Initiatives such as the introduction of the eight high impact actions for nursing (NHS Institute for Innovation and Improvement 2009) and the Energising Excellence for Care Initiative (DoH 2010b) have reinforced nursing's contribution in terms of improving the quality of care, patient experience and health outcomes across a broad range of services. APNs are well positioned to add significant value to this agenda. However, the contribution they make will need to be clearly demonstrated if role development is to be sustained in the current economic climate.

Whereas this study identified that the impact of APNs on promoting EBP among FLNs was largely positive, there was some evidence to suggest that some APNs may unintentionally disempower FLNs. This observation has been largely unreported in the literature to date, and merits further exploration.

APNs exerted an impact on the practice of FLNs through a range of different activities. At times, APNs operated within a linear model of EBP in which they disseminated best evidence to FLNs, for example by cascading information through education and training initiatives. This approach has been reflected in other APN studies (Guest et al., 2004, Read et al., 1999, Thompson et al., 2001a). However, APNs also worked in ways which highlight the importance of context, illustrated in other models for implementing EBP (e.g. Rycroft-Malone 2010) when they engaged more proactively by working alongside FLNs to impact directly on the care provided.

Whereas APNs used their *advanced* knowledge and skills to support FLNs extending their role, it was also apparent that APNs were active in problem solving. APNs impacted upon FLNs by providing expertise to address patient problems which were beyond the expertise of FLNs. This aspect of their role is widely recognised within the literature; however, it was also apparent that APNs devoted time to remedying shortfalls in fundamental aspects of nursing care where FLNs were not achieving an acceptable standard. This suggests that clinical leadership by senior FLNs may be lacking in some areas. Whereas APNs' contribution to raising the quality of fundamental aspects of care is important to patient outcomes, it is not a cost-effective use of APNs' advanced nursing knowledge and skill.

If APNs are to maximise their impact on FLNs' ability to provide EBP they need to use strategies which are most likely to have a positive impact. Systematic reviews of the effectiveness of strategies to promote behavioural change in healthcare professionals so that they engage in EBP have identified that use of opinion leaders, educational outreach, audit and feedback, interactive meetings, and patient-mediated interventions are most effective, whereas the passive dissemination of materials and didactic education are least effective (Bero et al., 1998, Grimshaw et al., 2001). The role played by local opinion leaders in dissemination and promoting 'best evidence' has also been highlighted in a systematic review by Flodgren et al. (2011). Clearly APNs are well positioned as opinion leaders to promote EBP, and in this study they use a number of strategies that are recognised to be effective to some degree.

It is essential that APNs have the necessary knowledge and skills to promote EBP. In an earlier survey of APNs Gerrish et al. (2011) identified that expertise in EBP is variable, with those possessing a master's degree being more confident than those with lower academic qualifications. Profetto-McGrath et al. (2010) also identified the need for further development of APNs' capacity to retrieve and transfer knowledge in order to increase the uptake of research findings into nursing practice. Educational preparation needs to enable APNs to develop the knowledge and skills to provide evidence-based care

themselves, as well as develop skills in different strategies deemed to be effective in promoting EBP among their colleagues.

Conclusion

The findings from this study identify that APNs have a largely positive impact on the practice of FLNs and their ability to provide evidence-based care. However, this observation is based on the subjective reporting of APNs and the stakeholders with whom they worked. There remains a need to demonstrate more objectively APNs' impact on FLNs. Although this is inherently hard to capture, measurement of sustainable APN impact on knowledge, skills, attitudes and job satisfaction of FLNs should form part of future evaluations. It is suggested here that the dimensions of impact that we have identified will prove useful in conceptualising and operationalising impact in a more coherent and holistic fashion.

Key points

(1) In this study APNs had an impact on EBP amongst FLNs by developing their competence, empowering them to draw upon evidence in practice and creating a more questioning culture
(2) Three dimensions of impact were identified – direct/indirect, immediate/delayed and intentional/unintentional
(3) Our study relied upon subjective accounts of impact and there is a need for studies which collect objective evidence of impact
(4) Capturing the impact of APNs on FLNs is inherently challenging, but should be addressed if the potential of APN roles is to be realised
(5) Further research is needed to identify the most effective strategies APNs should use to promote EBP

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Conflict of interest statement

None declared.

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