PEER-REVIEWED RESEARCH

Surgical nurses lack the time and competence to work in an evidence-based manner

Surgical departments and educational institutions lack an organisational structure and culture that supports evidence -based practice. This may affect patient safety.

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ABSTRACT

Background: Advancements in medical equipment and treatment are continually being made. This results in more and better treatment services and methods, which in turn creates a special obligation on the part of healthcare professionals whose practice is evidence based to update their professional knowledge and heighten their awareness.

Purpose: The purpose of this study was to gain insight into surgical nurses' understanding of the concept of 'evidence-based practice' (EBP), as well as their experiences with evidence-based practice. By including various hospitals, we sought to investigate a variety of practices or systemic differences, such as attitudes and time allocated to evidence-based practice.

Method: We assembled four focus groups in three different parts of Norway. The focus group interviews were conducted between October and November 2012 and consisted of four to six surgical nurses.

Results: The nurses emphasised that an increasing demand for production and efficiency impeded their ability to work in an evidence-based manner. They said that a lack of knowledge could create uncertainty in the performance of their duties. However, the findings show that they did not always take advantage of the opportunities or take the time to work with EBP in the way it was intended, and they made little use of available rooms and PCs in the surgical departments to search for, read and assess professional and research articles.

Conclusion: This study reveals a lack of competence among the surgical nurses and an organisational structure and culture that fail to underpin and support EBP, both in the surgical departments and in the educational institutions. The findings suggest that this may be viewed in connection with a lack of facilitation, as well as insufficient commitment at both an individual and an organisational level.

Continual advancements in medical equipment and treatment are resulting in more and better treatment services and methods. This creates a special obligation on the part of healthcare professionals whose work is evidence based to update their professional knowledge and heighten their awareness.

In 2014, the specialist health service reported 414 adverse and/or serious incidents to the Norwegian Board of Health Supervision. Of these, 38 were classified as incidents related to surgical intervention (1). Some of the incidents were related to surgical complications that arose during or after the surgery. However, some complications arose from an injury caused by incorrect surgical positioning of the patient.

Incidents of sudden death due to a heart attack, blood clot or difficulties relating to the administration of anaesthesia were reported as well (1). We can therefore state that such incidents occur relatively often. Surgery-related injuries or death are often cited as examples when adverse incidents in the health service are discussed in general (1, 5, 6).

Evidence-based practice

Within the sphere of ‘evidence-based practice’ (EBP), it is important to base clinical decisions on up-to-date, research-based knowledge when it is available. Furthermore, the concept of EBP includes experience-based knowledge, i.e. clinical expertise and judgment, reflection and tacit knowledge. Acquisition of knowledge from health service users is also a crucial dimension of EBP (7).

Multiple studies have identified various barriers that impede evidence-based practice (3, 7–10). These barriers are related to, for example, a lack of knowledge that nursing research is available and can be used to change practice, as well as to limited experience with acquiring relevant, up-to-date knowledge from research. Another barrier is that research is perceived as unclear and difficult to read (8, 9, 11, 12).

Other noteworthy findings are a shortage of time during working hours, professional and research literature that is not compiled in a single location, a lack of rooms with access to PCs, and difficulties in implementing new measures due to resistance from managers and doctors (3, 7–9, 12). Recent research shows a positive attitude towards EBP. However, there are challenges relating to a time shortage and lack of support from managers in the effort to assess and implement new measures (10, 13–15).

Purpose of the study

This article describes the results from a qualitative study based on focus group interviews of surgical nurses from different parts of Norway. The purpose of this study was to gain insight into surgical nurses’ understanding of the concept of ‘evidence-based practice’ (EBP), as well as their experiences with evidence-based practice. On this basis, we formulated two research questions:

- What is surgical nurses' understanding of the concept of evidence-based practice?
- To what degree and in what way do surgical nurses work in an evidence-based manner?

Method

The study has a qualitative design, and we assembled four focus groups. We chose to use focus groups because the dynamic that arises from this method makes it well-suited to revealing the participants' knowledge about, experiences with and attitudes towards the application of EBP (16). The focus group interviews were conducted between October and November 2012 and each group consisted of four to six surgical nurses.

We took a strategic decision to include three hospitals from different parts of the country. By including various hospitals, we were able to uncover a variety of practices based on different educational backgrounds or educational institutions, or systemic differences within the hospitals, e.g. time allocated to professional development.

We phoned the administrative managers of the various surgical departments. The managers were informed of the study's purpose and method, and they were asked to help with recruitment. We recruited participants with 2 to 40 years of work experience in a surgical department. Most of them worked in full-time positions, and none of them worked in a position of less than 70 per cent. The sample consisted of women because there were no male surgical nurses in the respective departments.

Data collection

The surgical departments provided a venue for the interviews, and all the focus group discussions were therefore held in the respective hospitals. We conducted one of the interviews during working hours and three at the end of the work day. The focus group discussions lasted from 60 to 80 minutes. Based on our research questions, we created an interview guide. The main questions in the interview guide were as follows:

- What is your understanding of the concept of evidence-based practice?
- In what way and how often do you acquire new knowledge?

The first author served as the moderator for the interviews. In addition to broad, open-ended questions related to EBP and professional development, we asked questions about procedures and structures in the department. It can be beneficial for the moderator to have adequate background knowledge of the topic being discussed, as that individual may have different perspectives on the topic being discussed and can follow up on important aspects of the topic (16).

In our view, the moderator's background in surgical nursing laid a good foundation for the interviews. However, because the moderator was knowledgeable about the field, what is regarded as 'common knowledge' among surgical nurses may not have been integrated into the discussion.

Ethical considerations

It was not necessary to apply for permission from the Regional Committees for Medical and Health Research Ethics to conduct this study. The application to the Norwegian Social Sciences Data Service, now called the Norwegian Centre for Research Data, was approved prior to project start-up. The managers of the respective departments informed all the participants about the study, both verbally and in writing.

Prior to the interview, the moderator reiterated information about the study and the participants' right to withdraw. Ethical guidelines on confidentiality and anonymisation of data were complied with (17). The data were encrypted and stored on a password-protected PC.

Analysis

We analysed the findings using Malterud's (18) modified version of Giorgi's phenomenological analysis. The objective of the analysis was to illuminate the surgical nurses' own perceptions and experiences, and we focused on both the group and each individual surgical nurse. In the analysis process, we sought to identify the surgical nurses' understanding of the concept of EBP, and to what degree and in what way they work in an evidence-based manner. Consequently, we had to gather information about their work, or lack of work, with EBP in the surgical departments, as well as identify connections and contradictions in the information conveyed.

In the first phase of the analysis, we thoroughly read the transcribed texts several times. In so doing, we gained an overall impression of the opinions and patterns that predominated. In the next phase, we conducted a systematic review of the interviews. We focused on identifying meaning units of phenomena that the focus groups revealed and that resulted in knowledge about the research problem.

The main points of the interview guide were used to create codes, i.e. labels to gather extracts of text that had commonalities. Such extracts were systematised and placed in the following columns:

- What is surgical nurses' understanding of the concept of evidence-based practice?
- In what way and how often is new knowledge acquired?

Then we compared and assessed the meaning units from the same column from each focus group interview to gain a deeper understanding of the important patterns and nuances that came to light. We formulated the following categories:

- professional development versus EBP
- promotes professional development
- impedes professional development
- departmental culture

In this phase of the analysis, the concept of EBP was put in the context of ‘professional development’, as very few nurses used or had a clear understanding of EBP, which in itself represented a finding. In the third phase, we critically assessed the codes that represented the basis for the categories. Potential topics were developed, and connections between meaning units, codes, categories and topics were brought to light. In the fourth phase, we critically assessed the meaning connections within the topics in relation to the data as a whole. We identified three main topics:

- structural factors
- attitudes and responsibility for one’s own profession
- competence and knowledge related to evidence-based practice

Results

The findings show some lack of knowledge about, understanding of and use of the concept or term ‘EBP’. By the same token, the findings show that the participants are already working with aspects of the concept of EBP. Experiential knowledge such as reflection and sharing clinical experience with others stand out as key strategies that are used to enhance competence and increase patient safety. A focus group participant stated the following:

‘We learn from each other’s experiences. We can have different experiences with different things, and if you’re unsure about something, then you go and find the person who dealt with it last and you ask, “How did you do that exactly?”.’

> **«A shortage of time is one of the main barriers to searching for, reading and assessing professional and research articles.»**

However, most of the participants have little awareness of and experience with research-based knowledge as a part of the concept of EBP, which proved to be one of the main findings in this study. The findings also show that a shortage of time is one of the main barriers to searching for, reading and assessing professional and research articles.

All the surgical nurses talked about the increasing demand for production and efficiency. A busy work situation and scare resources on the job were emphasised as important barriers. At the same time, the findings show that time allocated to working in an evidence-based manner is not always used as intended and that spare time is regarded as ‘sacrosanct’.

Structural factors and responsibility for one’s own profession

In order for surgical nurses to be able to improve patient safety, they must plan and prioritise time to work with professional development and updating their knowledge. The participants emphasised this challenge in all the focus groups. Many said that they have a scheduled time to work on certification and/or procedural tasks of one to four days per year in rotation.

Beyond this, no time or resources are allocated to updating their professional knowledge, e.g. reading professional and research articles. A focus group participant alludes to this: ‘If we had more staff, so that you had time to sit down and work with professional development every now and then, make it part of a rotation, because our daily work is so hectic that there’s little time for it.’

Extreme time pressure

Another participant in the same group adds the following: ‘There are so many aspects to this job that you really need time to get familiar with it all, and that’s something you don’t have during the day.’ Many emphasised that a lack of knowledge could lead to uncertainty when carrying out their duties. In addition, several participants noted that the pace of work is very fast. As a result, many appeared to be somewhat resigned to their inability to take responsibility for their own professional development.

One experienced participant described how her work situation puts patient safety at risk: ‘It goes so fast that it’s not possible to work any faster. It would be wrong, quite simply. We have worked ourselves up to an extremely fast pace, and I think we become so “effective” in the end that you almost don’t think, your head’s not in it, you just act on impulse, and I don’t think that’s a good thing.’

All the participants tended to regard external factors such as time pressure as the reason that they were not sufficiently up-to-date or prepared for a surgery, which in turn affected patient safety. Multiple participants in several of the groups noted, however, that there is time between work duties, but that they do not use this time to update their knowledge. One participant described it as follows: ‘Yes, we have time, but you don’t always prioritise that 15 minutes for that. At least I don’t.’

Must use their spare time for professional updating

In the discussion of responsibility for increasing their own competence, they talked about whether they could envisage using their spare time to update their professional knowledge. A basic attitude among the participants was that ‘spare time was sacrosanct’. Many argued that surgical nurses have an extremely demanding job and that they therefore do not have the energy to search for, read and assess professional and research articles in their spare time.

One participant expressed her opinion on this by stating: ‘Time is not allocated for me to go online and gather knowledge or to do a search, so I have to do it in my spare time, and I’m not going there, I’m not!’.

Several participants from the focus groups said that their department has one or more rooms with a PC that can be used to search for and read professional and research articles. It came to light that the rooms were mainly used for conversation and eating – as well as a place where they talked about private matters.

One participant described the situation as follows in one of the focus groups: ‘We have four PCs really. We can sit in the staff room and go in and check if we want something, where we eat, and we can go in the corner where the doctors often sit, or we can go into the small room, or we can go into the room next door…’.

Another participant from another focus group gave a similar description: ‘We’ve got a study room where we’re supposed to be able to sit at the end of the day and study professional material and such, but the room is used to discuss everything from train schedules to recipes, and it’s difficult to sit there and work.’

In all the focus groups, the participants agreed that there was a genuine opportunity to search for professional and research material. However, it was clear from the discussions that this time and the rooms were used primarily to rest or to talk with colleagues.

Competence and knowledge related to evidence-based practice

The focus group discussions show that searching for relevant research literature does not represent a natural part of the working day, nor is it regarded as a normal work duty. The participants think the search process is difficult, that they do not have the expertise to conduct a literature search properly or thoroughly enough. This lack of competence is seen, for example, in the fact that many of the participants do not know which databases they can search in.

Moreover, many prefer to read the literature in Norwegian. One participants said the following: ‘I don’t know where I can find articles on surgical nursing and treatment, and I prefer to read in Norwegian. English is too difficult.’

Challenges with PCs and the internet

Some participants point out that they are generally not good at using PCs: ‘You don’t have much time to sit down at the computer, and besides, my computing skills are really bad.’ Furthermore, it came to light that it is more common to surf the internet for various diseases and topics they are most interested in, rather than actively search for peer-reviewed research. Some said they preferred to use Google instead of the medical databases. ‘If there are things I’m wondering about, diagnoses for example, I quickly pick up my phone, and I find out a lot just by googling on the internet.’

«Some said they preferred to use Google instead of the medical databases.»

Several participants responded to such comments by pointing out that information found on the internet is not necessarily of good quality. It also came to light in the discussions that the participants thought it was difficult to assess the quality of and difference in professional and research articles. In addition, they found it difficult to know where on the internet they can find professionally sound material that they can apply in their work.

Difficult to apply research results

Another aspect mentioned in one of the focus groups was resistance from the management to attempts to implement new measures based on recent research, often through feedback like this: ‘We don’t do that here.’

In the other focus groups, participants generally did not know how they could initiate the use of research results to improve practice, while at the same time they thought there was little relevant research on nursing.

The participants had completed their surgical nursing education in Norway and abroad, and the findings show no obvious tendencies in differences based on the participants’ background or workplace with regard to working in an evidence-based manner.

Discussion

Many of the participants pointed out various barriers to working in an evidence-based way. In our study, these barriers involve the inclusion of research-based knowledge along with experience-based and user-based knowledge. The barriers are related to a scarcity of time and resources, as well as to a lack of organisational facilitation, insufficient commitment on the part of management and a lack of personal commitment.

It is uncertain how many patients die in hospital due to patient injury, but enough is known to state that the number of patient injuries is considerable (6, 19). To reduce this number, we must increase knowledge about the causes of patient injuries and death (19). To avoid adverse incidents from occurring, healthcare personnel's professional knowledge and competence should be enhanced.

The Norwegian Medical Association (19) notes that, in addition to identifying the causes of errors, it is important to study the factors that prevent transparency related to these errors. Patient safety is created in the organisation, and by ensuring a high level of transparency and safety through reporting deviations, follow-up and learning can also take place. Patient injuries and adverse incidents are a socioeconomic burden, and as such, the line of governance in the health trusts should continually focus on quality and ensure that those who deliver health services have sufficient competence (1, 6, 19).

Time not allocated for professional development

The findings in this study show that some departments have set aside time for certification and procedures on a rotating basis, but beyond this, time is not set aside for individual professional development. By the same token, healthcare personnel can actively take advantage of the opportunities available to ensure they possess such competence, and thus help to promote the implementation of up-to-date knowledge in clinical settings (19, 21–23).

It is both the responsibility of the department and of each individual surgical nurse to create a framework in which healthcare professionals can work in an evidence-based manner (5, 24). However, it could be envisaged that nurses would more fully step into their responsibility for applying EBP if organisational measures that ensure time for professional updating were given priority and emphasised in the rotation plans.

«It is both the responsibility of the department and of each individual surgical nurse to create a framework in which healthcare professionals can work in an evidence-based manner.»

Moreover, findings from a literature review (25) indicate that it is important for educational institutions to draw up programme plans with learning activities related to EBP (25). By adopting a systematic training programme in close cooperation with practitioners, knowledge about EBP will increase among the surgical nurses in the field of practice and among the students (25).

EBP must be integrated into educational programmes

We have read through the programme plans of various university colleges on their websites and have had verbal contact with various representatives from different university colleges. It seems that there are still some university colleges in Norway that do not include EBP as a course in their programme plan, even though the Ministry of Health and Care Services has required EBP to be implemented among teachers and healthcare professionals by 2015 (26). The educational institutions can therefore assume a greater responsibility for integrating and implementing EBP as a course in their programme plans.

By emphasising specific learning activities such as searching for, reading, understanding and assessing research articles and different research designs, nurses and those obtaining a specialisation can learn how to work in an evidence-based manner during their studies. Contact nurses, supervisors and teachers, together with the students, can help to formulate research problems that are clinical and patient centred. As a result, employees will be involved and able to recognise the value of research in practice.

This, in turn, can lead to a positive attitude towards using research to change practice (10, 12, 13, 28). In addition, they can complete courses and training programmes in EBP. Resource persons at the departmental level, such as specialist nurses, can be used to train other employees (12, 29). More knowledge will increase safety, and greater safety will result in positive attitudes towards the ongoing work with evidence-based practice (12, 28).

Surgical nurses must take more responsibility

The findings show that the surgical nurses work at a very fast pace, and they believe they are at risk of not performing their nursing duties in a safe, professionally sound manner. However, the findings also suggest that surgical nurses take little responsibility for working in an evidence-based way, i.e. that they show relatively little commitment to ensuring that they are up-to-date on relevant knowledge so they can carry out their nursing duties in a sound manner. Their reasoning seems to involve acceptance of the notion that evidence-based practice must give way to demands for production and efficiency.

«The findings also suggest that surgical nurses take little responsibility for working in an evidence-based way.»

The 1990s saw the introduction of ‘New Public Management’, which is expressed in the health trust reform, the coordination reform and the hospital mergers (15). According to Wyller et al. (15), one of the features of this management strategy is the demand for loyalty to the management. As a result of this demand, the personal responsibility that the professional practitioner has for looking after the patient is replaced with a demand for loyalty to the managers, who in turn must be loyal to their managers.

Professional practitioners are turned into disciplined employees whereby, among other things, each individual assessment, and thus professional accountability, is suppressed by decisions made at a higher level (15). One could therefore ask whether derogation of responsibility and demands for sound professional practice lie with the individual or whether they are a result of the organisations’ management structure (4, 10, 19, 30). The findings in this study indicate that there is a derogation of responsibility at multiple levels in the field of practice.

Conclusion

This study reveals a lack of competence among the surgical nurses and an organisational structure and culture that fail to underpin and support EBP, both in the surgical departments and in the educational institutions. The findings suggest that this may be viewed in connection with a lack of facilitation, as well as an insufficient commitment at both an individual and an organisational level.

There is a need for systematic training and follow-up to increase knowledge about EBP, both in the surgical departments and in the educational institutions. By focusing on the departmental level as well as relevant educational institutions, we can achieve a synergy effect that can bring about an attitudinal change that more effectively addresses all the aspects of evidence-based practice.

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