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A qualitative study

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BY
SIRI LYGUM VOLDBJERG

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AALBORG UNIVERSITY
DENMARK

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CV

Siri Lygum Voldbjerg is a registered nurse and holds a Masters Degree in Nursing Science from Aarhus University, Denmark. From 2013 Siri Lygum Voldbjerg has been a PhD student at the Research Unit of Clinical Nursing, Aalborg University Hospital and University College Northern Denmark, enrolled at The Doctoral School in Medicine, Biomedical Science and Technology at Aalborg University, Denmark. Her clinical nursing background is within neonatal intensive care. Since 2006, she has taught undergraduate nursing students at the Department of Nursing at University College of Northern Denmark, where she currently holds a position as senior lecturer. Her main subjects of interest and teaching are evidence-based practice, theory of science and research methodology and knowledge translation. Siri Lygum Voldbjerg has been engaged in the evaluation of nursing education and curriculum development with a specific focus on developing nursing students' knowledge, skills and competencies within evidence-based practice.

ENGLISH SUMMARY

Evidence-based practice has been introduced internationally as a standard for healthcare delivery to improve the quality of care, thus ensuring safe care and treatment. Evidence-based practice calls for a decision-making that specifically requires nurses to place the patient at the centre of clinical decisions, based on transparent, articulate and reflective use of knowledge sources. Furthermore, it is implied that nurses are able to retrieve, asses, implement and evaluate research evidence. To meet these requirements, nursing educations around the world have organised curricula to educate and support future nurses, enabling them to work within a framework of evidence-based practice. Recent studies underline that despite curricula interventions, newly graduated nurses' use of research evidence and components within evidence-based practice is limited. However, it is unclear why the newly graduated nurses do not work within a framework of evidence-based practice.

The overall aim of this thesis was to explore which knowledge sources newly graduated nurses' use in their clinical decision-making and why they use them in order to understand why newly graduated nurses use research and components within evidence-based practice to a limited extent. The thesis is based on a synthesis of findings from two studies. The aim of the first study was to explore which knowledge sources newly graduated nurses use in clinical decision making as reported within international qualitative research. The purpose was to gain a deeper insight into the theoretical perspective of knowledge use among newly graduated nurses and to identify specific aspects of the phenomenon, which could either be supported, revised or refuted by further exploration of the field. The aim of the second study was to explore and describe Danish newly graduated nurses' use of knowledge sources in clinical decision-making. The two studies are represented in three papers each guided by the following objectives:

Study 1

- To describe the knowledge sources newly graduated nurses use in their clinical decision making as documented in qualitative, research-based reports

Study 2

- To explore and describe which knowledge sources are incorporated in and guide newly graduated nurses' clinical decisions, and what influences on how the knowledge sources are used in clinical decision-making

- To explore and describe how socialisation into a clinical setting influences the use of knowledge sources among newly graduated nurses

In study 1, meta-ethnography as described by Noblit and Hare was applied as method of synthesis of international qualitative research. Based on iterative literature search in the databases CINAHL, PubMed, SCOPUS and Google Scholar from May 2013 to May 2014 a total of 19 reports, representing 17 qualitative studies published between 2000-2014 were included in the synthesis. In study 2, ethnography was chosen as methodology with principles from focused ethnography integrated in the methodology. Participant-observation and semi-structured interviews of nine Danish newly graduated nurses were chosen as methods for data collection. Data was collected from eight different clinical settings from May to November 2014 at a Danish University Hospital.

To answer the overall aim of the thesis, the findings from the two studies were synthesized. The findings show that the conscious and reflective use of knowledge sources is influenced by the following: Education-Clinical Practice Gap, Role models, Culture of inquiry and Articulation of knowledge sources. Contextual and individual influences impact the newly graduated nurses' use of research knowledge and their use of components within evidence-based practice. The synthesis underlines that in order to understand why newly graduated nurses use components within evidence-based practice and research evidence to a limited extent, answers can partly be found in the newly graduated nurses' experience of a theory-practice gap between education and clinical practice. Due to their perception of being inadequately prepared for clinical practice from nurse education and experiencing an overwhelming responsibility they do not feel prepared for, they find themselves highly dependent on the experienced colleagues as a predominant knowledge source. The experienced colleague is perceived as a role model and indirectly influences the newly graduated nurses' inquiring approach and thus the reflective and articulate use of knowledge sources.

The findings supplement and elaborate on previous research on factors that facilitate or hinder newly graduated nurses' use of research evidence and other components within evidence-based practice. This thesis calls for an articulated clarity to the reflective use of knowledge sources underpinning decisions taken within a frame of evidence-based practice. It also underlines a need for a greater concurrence on how knowledge sources are articulated and used in nursing education and clinical practice. This study may inform interventions as to how newly graduated nurses can be supported in their use of knowledge, skills and competencies within evidence-based practice and put them into use in clinical practice to improve nursing care. Furthermore, the findings may be used to inform the planning of curricular interventions at schools of nursing and in organizing introductory programs for newly graduated nurses in clinical practice.

DANSK RESUME

Evidensbaseret praksis er på international plan blevet introduceret som en standard for sundhedsydelser med henblik på at forbedre og kvalitetssikre pleje og behandling. Evidensbaseret praksis fordrer, at sygeplejersker tager kliniske beslutninger med udgangspunkt i den enkelte patient baseret på tydelig, eksplicit og reflekteret brug af videnskilder. Derudover kræver evidensbaseret praksis, at sygeplejersker kan søge, vurdere, implementere og evaluere evidens fra forskning. For at imødekomme disse krav, har sygeplejerskeuddannelser verden over tilrettelagt curricula, som uddanner og understøtter fremtidige sygeplejersker i at kunne arbejde i en ramme af evidensbaseret praksis. Nylige undersøgelser understreger, at på trods af de uddannelsesmæssige tiltag, så er nyuddannede sygeplejerskers brug af forskningsevidens og andre komponenter inden for evidensbaseret praksis begrænset. Det er dog uklart, hvorfor nyuddannede sygeplejersker ikke arbejder i en ramme af evidensbaseret praksis.

Det overordnede formål med denne afhandling var, at undersøge *hvilke* videnskilder nyuddannede sygeplejersker gør brug af i deres kliniske beslutninger, samt *hvorfor* de bruger dem. Dette med henblik på at kunne forstå, hvorfor nyuddannede sygeplejersker anvender forskningsevidens og komponenter inden for evidensbaseret praksis i begrænset omfang. Afhandlingen er baseret på en syntese af resultater fra to studier. Formålet med det første studie var, at få en dybere teoretisk indsigt i nyuddannede sygeplejerskers brug af viden, samt identificere specifikke aspekter af fænomenet, som enten kunne understøttes, revideres eller modbevises ved yderligere udforskning af feltet. Formålet med det andet studie var, at undersøge og beskrive danske nyuddannede sygeplejerskers brug af videnskilder i klinisk beslutningstagen. De to undersøgelser er præsenteret i tre artikler, hver styret af specifikke formål:

Studie 1

- På baggrund af kvalitative videnskabelige studier at beskrive de videnskilder nyuddannede sygeplejersker gør brug af i deres kliniske beslutningstagen.

Studie 2

- At udforske og beskrive hvilke videnskilder som inddrages i og guider nyuddannede sygeplejerskers kliniske beslutninger, samt de påvirkninger som influerer måden hvorpå videnskilderne anvendes i kliniske beslutninger.

- ❖ At udforske og beskrive hvordan socialisering ind i en klinisk kontekst påvirker nyuddannede sygeplejerskers brug af videnskilder.

I studie 1 blev meta-etnografi, som beskrevet af Noblit og Hare, anvendt som metode til syntese af international kvalitativ forskning. Baseret på en iterativ søgning af litteratur i databaserne Cinahl, PubMed, Scopus og Google Scholar fra maj 2013 til maj 2014 blev i alt 19 artikler, der repræsenterer 17 kvalitative undersøgelser publiceret mellem 2000-2014, inkluderet i syntesen. I studie 2, blev etnografi valgt som metodologi integreret med principper fra fokuseret etnografi. Deltager-observation og semistrukturerede interviews af ni danske nyuddannede sygeplejersker blev valgt som metode til dataindsamling. Der blev indsamlet data fra otte forskellige kliniske afsnit på et dansk universitetshospital fra maj til november 2014.

For at besvare det overordnede formål med afhandlingen blev fundene fra de to studier syntetiseret. Syntesen af fundene viser, at den bevidste og reflekterede anvendelse af videnskilder påvirkes af følgende: uddannelse-klinisk praksis kløft, rollemodeller, undrende og spøgende kultur og italesættelse af videnskilder. Kontekstuelle og individuelle påvirkninger influerer de nyuddannede sygeplejerskers brug af forskningsviden og andre komponenter i evidensbaseret praksis. Syntesen understreger, at for at forstå, hvorfor nyuddannede sygeplejersker bruger forskningsviden og komponenter inden for evidensbaseret praksis i begrænset omfang, skal svaret til dels findes i de nyuddannede sygeplejerskers oplevelse af en teori-praksis kløft mellem uddannelse og klinisk praksis. Grundet en opfattelse af ikke at være uddannelsesmæssigt tilstrækkeligt forberedt til at arbejde i klinisk praksis, samt en oplevelse af et overvældende ansvar, som de nyuddannede sygeplejersker ikke føler sig parate til at varetage, bliver de afhængige af den erfarne kollega som en dominerende videnskilde. Den erfarne kollega opfattes som en rollemodel og har indirekte indflydelse på nyuddannede sygeplejersker undrende og spørgende tilgang til klinisk praksis. Den erfarne kollega har dermed indflydelse på de nyuddannede sygeplejerskers reflekterede og eksplicitte brug af videnskilder.

Fundene supplerer og uddyber tidligere forskning omkring faktorer der fremmer eller hæmmer nyuddannede sygeplejerskers brug af forskningsviden og andre komponenter inden for evidensbaseret praksis. Denne afhandling understreger nødvendigheden af en tydelig italesættelse af den reflekterede brug af de videnskilder, som understøtter kliniske beslutninger taget i en ramme af evidensbaseret praksis. Derudover påpeger afhandlingen behovet for en større overensstemmelse mellem italesættelsen og anvendelsen af videnskilder i henholdsvis sygeplejerskeuddannelsen og klinisk praksis. Fundene fra denne undersøgelse kan informere interventioner, hvor formålet er at understøtte nyuddannede sygeplejersker i deres brug af viden, færdigheder og kompetencer inden for evidensbaseret praksis med henblik på at forbedre sygeplejen. Desuden kan fundene inddrages i planlægning af curricula på sygeplejerskeuddannelser samt i

tilrettelæggelsen af introduktionsprogrammer for nyuddannede sygeplejersker i klinisk praksis.

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Siri Lygum Voldbjerg, August 2016

LIST OF PUBLICATIONS

Papers

1. Voldbjerg S.L., Grønkjær M., Sørensen E.E. & Hall E.O.C. (2016a) *Newly graduated nurses' use of knowledge sources: A meta-ethnography.* Journal of Advanced Nursing (Version of Record online: 9 FEB 2016). DOI: 10.1111/Jan.12914
2. Voldbjerg S.L., Grønkjær M., Wiechula R. & Sørensen E.E. (2016b) *Newly Graduated Nurses' use of Knowledge Sources in Clinical Decision-Making: An Ethnographic Study.* Manuscript submitted for publication to Journal of Clinical Nursing.
3. Voldbjerg S.L., Grønkjær M., Wiechula R. & Sørensen E.E. (2016c) *Newly graduated nurses' socialisation into limiting inquiry and one-sided use of knowledge sources – An ethnographic study.* Manuscript submitted for publication to International Journal of Nursing Studies.

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CHAPTER 1. INTRODUCTION

Aiming to explore why newly graduated nurses practise evidence-based practice to a limited extent, this thesis will describe the knowledge sources they use in clinical decision making and the reasons why they use them. Evidence-based practice (EBP) has been introduced internationally as a standard for healthcare delivery to improve the quality of care, thus ensuring safe care and treatment (Bucknall 2004; Estabrooks 2004; Kitson 2004; Sigma Theta Tau International 2008). EBP has been defined as *'a process of shared decision-making between practitioner, patient, and others significant to them based on research evidence, the patient's experiences and preferences, clinical expertise or know-how, and other available robust sources of information'* (Sigma Theta Tau International 2008, p. 57). It is a decision-making process which specifically requires nurses to place the patient at the centre of clinical decisions, based on transparent, articulate and reflective use of knowledge sources. Furthermore, it is implied that nurses are able to retrieve, asses, implement and evaluate research evidence. To meet these requirements, nursing educations around the world have organised curricula to educate and support future nurses, enabling them to work within a framework of evidence-based practice (Moch et al. 2010 (a); Cronje et al. 2010; Malik et al. 2015; Ramis et al. 2015). However, recent studies underline that despite curricula interventions, newly graduated nurses' use of evidence-based practice components is limited (Andersson et al. 2007; Boström et al. 2009; Forsman et al. 2009; Wangensteen et al. 2011; Rudman et al. 2012) . It is unclear why the newly graduated nurses do not work within a framework of evidence-based practice (Forsman et al. 2010).

CHAPTER 2. BACKGROUND

The following section outlines the background for the thesis. Evidence-based practice is defined in relation to nursing, knowledge sources and nursing education. This is followed by a description of newly graduated nurses' use of components within EBP in a clinical setting and a description of how the newly graduated nurses' transition into clinical practice affects working within a frame of EBP. The section is rounded off with the rationale and aim of the thesis.

2.1. EVIDENCE-BASED PRACTICE WITHIN NURSING

Evidence-based practice is a process that informs clinical decisions. The definition of EBP within nursing has evolved over time. Stemming from the medical profession, evidence-based practice was initially described as *'the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence-based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research'* (Sackett et al. 1996, p. 71). This definition has specific focus on the use of evidence deriving from systematic research - preferably from randomised, controlled trials - and evidence deriving from systematic reviews and meta-analyses. This one-sided focus proved challenging when implementing research evidence into practice as it did not take the complexities of clinical decision making into account (Rycroft-Malone et al. 2004; Bucknall and Rycroft-Malone 2010). Furthermore, it was a concern that the dominant definition of evidence as research-based knowledge would undermine and overlook other essential sources of knowledge within nursing (Eriksson et al. 2002; Rycroft-Malone et al. 2004; Martinsen 2006). Acknowledging the importance of the patient, the setting and the time, EBP has been redefined within nursing in an attempt to embrace the contextual and cultural influences on clinical decisions (Bucknall and Rycroft-Malone 2010). Rycroft-Malone et al. opened up for a broader understanding and definition of evidence and EBP, redefining it as 'patient-centred evidence-based practice', where decisions are made based on robust evidence from research, patient experience and preferences, 'local' data and information as well as 'professional knowledge/clinical experience'. Decisions should be made in a context of caring with focus on the establishment of practitioner-patient interaction and relationship (2004). DiCenso et al. (2005) defined EBP as decisions made on the base of clinical expertise, encompassing four components: patient preferences and actions, healthcare resources, research evidence as well as clinical state, setting and circumstances (DiCenso et al. 2005). In Sigma Theta Tau's international position on EBP, they refer to DiCenso's description of EBP, but suggest a broader definition of the sources of knowledge, highlighting the importance of patients and families, clinical audit data, resource management data, policy and strategy information as well as information from public sources (Sigma Theta Tau International 2008). In their

definition of EBP, Melnyk et al. have likewise underlined the importance of context by specifying that decisions have to be made within a 'context of caring' (Melnyk 2014). Definitions of EBP within nursing have opened up for a broader understanding of the knowledge sources underpinning EBP. This is for instance reflected in Higgs and Jones's definition of evidence in EBP as *'knowledge derived from a variety of sources that has been subjected to testing and has found to be credible'* (Higgs and Jones 2000, p. 311). The discussion of knowledge and knowledge sources within nursing has been central to the debate on the implementation of EBP (Rycroft-Malone et al. 2004).

2.2. EVIDENCE-BASED PRACTICE AND KNOWLEDGE SOURCES

In Rycroft-Malone et al.'s definition of EBP, decisions are as mentioned made based on the establishment of practitioner-patient interaction and relationship, using robust evidence from research, patient experience and preferences, 'local' data and information and 'professional knowledge/clinical experience' (2004). This definition implies the melding and reflective use of several knowledge sources, underlining the fact that research evidence cannot inform practice on its own. Knowledge has been defined as 'facts, information and skills acquired through experience or education; the theoretical or practical understanding of a subject' (Oxford English Dictionary 2012). The importance of describing both propositional and non-propositional knowledge has been evident in the nursing literature on nursing knowledge. Barbara Carper described fundamental patterns of knowing and knowledge within nursing as consisting of 'empirics, the science of nursing; esthetics, the art of nursing; personal knowledge in nursing and ethics, the moral knowledge in nursing' (Carper 1978). Chinn and Kramer later elaborated on this definition and added emancipatory knowledge (Chinn and Kramer 2011). Inspired by Dreyfus and Dreyfus, Patricia Benner described and drew attention to the importance of intuitive knowledge within nursing, an implicit 'know how' knowledge embedded in practical skills and expertise (Benner 1984). The distinction between propositional and non-propositional knowledge has been referred to as the 'know that' and the 'know how' (Benner 2001), a distinction underlining the difference between knowledge from theory and knowledge gained from practical experience.

With its emphasis on transparent clinical decisions, the EBP 'movement' has challenged the nursing profession by requiring articulation, reflection and scrutiny of both propositional and to some extent non-propositional knowledge. Even though Benner would argue that knowledge embedded in practice and 'know how' is tacit (Benner 2001), Rycroft-Malone et al. (2004) underline that non-propositional knowledge has the potential to become propositional through articulation, debate, contest and verification through the wider community of clinical practice.

Evidence-based practice calls for clinical decisions that are transparent and based on a variety of knowledge sources. Acknowledging that there are forms of knowledge that remain implicit and unarticulated, Chinn and Kramer's distinction between knowing and knowledge has been adopted in this thesis. Knowing refers to *'a particular and unique awareness that grounds and expresses the being and doing of a person'* and knowledge refers to *'knowing that can be expressed and communicated to others in many forms, including principles of practice, work of art, stories, and theories'* (Chinn and Kramer 2011, p. 4). Although knowing and knowledge interact and influence one another (Eraut 2000), the core of this thesis is 'knowledge' and more specifically 'knowledge sources' that can be articulated and reflected upon. 'Knowledge sources' was chosen over 'information sources' due to the implication that information is external, resulting in a focus on propositional sources (Gustavsson 2001). Propositional sources interact with and are influenced by non-propositional sources, and therefore 'knowledge sources' encompassing both was chosen. 'Evidence sources' was not chosen due to the often implicit understanding of evidence as knowledge from research (Rycroft-Malone et al. 2004; Martinsen 2006).

2.3. EVIDENCE-BASED PRACTICE IN NURSING EDUCATION

The increased interest in EBP has led to attentiveness and concern as to how nurses are educated and trained to work within a frame of evidence-based practice (Cronje et al. 2010; Moch et al. 2010(a); Moch et al. 2010(b); Malik et al. 2015; Ramis et al. 2015). In response to the increased requirements and the focus on competencies needed for evidence-based practice, nursing educations have internationally developed curricula to support nurses in making clinical decisions in a context of caring, considering patient preferences and values, research and clinical expertise as well as healthcare resources (Cronje et al. 2010; Melnyk et al. 2014; Malik et al. 2015). Nurses are taught research methodology and trained in identifying clinical problems, in formulating structured questions, in carrying out systematic searches in relevant databases and in critically assessing the most relevant evidence in order to ultimately involve evidence in their clinical decision (Tilson et al. 2011; Malik et al. 2015). These interventions are supported by different pedagogical methods to strengthen the nurses' inquiring and critical thinking skills (Profetto-McGrath 2005).

2.4. EVIDENCE-BASED PRACTICE AND NEWLY GRADUATED NURSES

The curricular changes and increased requirements for an evidence-based practice have brought attention to the newly graduated nurses' knowledge, skills and competencies within evidence-based practice (Profetto-McGrath 2005; Forsman et al. 2010; Wangensteen et al. 2011; Rudman et al. 2012). Several assessment tools have been introduced for evaluation of teaching outcomes of evidence-based practice (Shaneyfelt et al. 2006; Tilson et al. 2011). Research has mainly evolved

around assessing the newly graduated nurses' research utilisation (Andersson et al. 2007; Forsman et al. 2009; Forsman et al. 2010; Wangensteen et al. 2011) or assessing their knowledge, skills and competencies within components of evidence-based practice[1] (Boström et al. 2009; Rudman et al. 2012). Studies show that newly graduated nurses' use of research is relatively low (Andersson et al. 2007; Forsman et al. 2009; Wangensteen et al. 2011). Rudman et al.'s longitudinal study on newly graduated nurses' evidence-based practice concluded that there was a wide variation among nurses as to which extent they used components of evidence-based practice, ranging from infrequently to regularly (Rudman et al. 2012). The most common component used was 'using other information sources' which included 'asking colleagues' (Rudman et al. 2012). Formulating questions, critical appraisal, implementing evidence and evaluating practice were used to a relatively limited extent (Rudman et al. 2012). In their study on nurses with two years of experience, Boström et al. concluded that their use of evidence-based practice components was low (Boström et al. 2009). A longitudinal study by Wallin et al. which followed nurses' use of research for the first five years after graduation, showed a slight increase in research use following the second year of clinical practice (2012). Newly graduated nurses' use of research reflects studies on more experienced nurses which show a variation in the use of research, and that the primary source of knowledge is colleagues (Estabrooks et al. 2005; Maben et al. 2006; Spenceley et al. 2008; Squires et al. 2011).

Barriers reported among newly graduated nurses to the use of research and components within evidence-based practice are 'insufficient time on the job to implement new ideas, not having time to read up on research and inadequate facilities for implementation' (Andersson et al. 2007). Promoting factors are 'critical thinking and contextual factors such as the availability and support to implement research findings' (Wangensteen et al. 2011). Wallin et al. linked the limited use of research among newly graduated nurses to their transition from nursing education into the clinical field (2012).

2.5. NEWLY GRADUATED NURSES IN TRANSITION

Newly graduated nurses enter an evolving, complex and often specialised healthcare environment where they are expected to be contributing nurses within the first few months (Mooney 2007(a); Thrysoe et al. 2011; Missen et al. 2016). The initial years of clinical practice have been described as a 'reality shock' (Kramer 1974) and

[1] Studied components within EBP were: formulating questions, critical appraisal, implementing evidence and evaluating practice (Rudman et al. 2012) as well as formulating questions to search for research-based knowledge, seeking out relevant knowledge using data bases, seeking out relevant knowledge using other information sources, critical appraisal and compiling of best knowledge, participating in implementing research knowledge in practice, participating in evaluating practice based on research knowledge (Boström et al. 2009).

'transition shock' (Duchscher 2008), a transition between education and clinical practice where the newly graduated nurses experience a gap between the ideals taught in nursing education and the realities of clinical practice. This leaves them with a feeling of insecurity, inadequacy and low confidence in their own abilities as nurses, which may compromise their development of skills and competencies acquired within evidence-based practice (Gerrish 2000; Maben et al. 2006; Mooney 2007(a); Cleary et al. 2011). As part of socialisation they try to conform by 'doing like the others do' (Mooney 2007(b); Maben et al. 2006), leaving out questioning of clinical practice. On the one hand they enter into practice with knowledge and skills, which have been called for to overcome some of the barriers to the implementation of evidence-based practice (Kajermo et al. 2010). On the other hand, they seem to be hindered in using these skills and competencies due to a socialisation process where the skills are not acknowledged and put into use.

2.6. RATIONALE FOR THIS THESIS

Newly graduated nurses enter clinical practice with the knowledge, skills and competencies, which are called for by experienced nurses in order for them to work within a frame of evidence-based practice. Thus, newly graduated nurses could be used as a resource in the implementation of evidence-based practice. However, several studies - mainly based on self-report studies - point out that newly graduated nurses' use of research and components within evidence-based practice is limited (Andersson et al. 2007; Boström et al. 2009; Forsman et al. 2009; Wangensteen et al. 2011; Rudman et al. 2012). This is a disadvantage for the improvement of the quality of care as evidence-based practice should be implemented to ensure the best possible care and treatment of patients. Furthermore, it implies that the knowledge they acquired through nursing education within evidence-based practice is not made use of or is insufficient.

Studies on newly graduated nurses' ability to work within a framework of evidence-based practice have primarily focused on the use of research and the following components within EBP: formulating questions to search for research-based knowledge, searching for relevant knowledge using data bases, critical appraisal of acquired knowledge, implementing research knowledge and evaluating practice based on research knowledge (Boström et al. 2009; Rudman et al. 2012). It is generally accepted that multiple sources of knowledge inform decisions (Bucknall and Rycroft-Malone 2010). The study of other knowledge sources used among newly graduated nurses is, however, sparse. Evidence-based practice calls for reflective use of a variety of knowledge sources, and acknowledging that different sources of knowledge interact and influence one another, it is relevant to explore and describe the sources which newly graduated nurses use in their clinical decisions, i.e. to describe the use of knowledge sources which may contribute to the understanding of *why* newly graduated nurses only use research and components within evidence-based practice to a limited extent.

The differentiation as to how knowledge and evidence are understood and defined reflects the social and cultural influences on their definition and use. As highlighted by Rycroft-Malone et al. (2004), what counts as evidence is a social construction. To understand the complexities of the use of knowledge sources there is a need to understand the individual and social perspective of using knowledge sources (Eraut and Hirsh 2007). Clinical decisions are complex and non-linear, made in ever-changing environments and often under time pressure (Bucknall 2007; Higgs and Jones 2008). The use of knowledge sources among newly graduated nurses is influenced by contextual and individual factors (Anderson et al. 2007; Forsman 2011; Wangensteen et al. 2011). Thus, it is relevant to explore the newly graduated nurses' use of knowledge sources, using a methodology that allows for an exploration and description of individual and contextual influences on the use of knowledge sources.

Exploring *which* knowledge sources newly graduated nurses use and *why* will contribute to an understanding of some of the barriers to the practice of evidence-based practice among newly graduated nurses, knowledge which is valuable when planning the curricula of nursing educations and introductory programmes for newly graduated nurses.

2.7. AIM

The overall aim of this thesis was to explore *which* knowledge sources newly graduated nurses use in their clinical decision making - and *why* they use them - in order to understand why newly graduated nurses use research and components within evidence-based practice to a limited extent. The thesis is based on two studies. The aim of study 1 was to explore which knowledge sources newly graduated nurses use in clinical decision making as reported within international qualitative research. The purpose was to gain a deeper insight into the theoretical perspective of knowledge use among newly graduated nurses and to identify specific aspects of the phenomenon which might either be supported, revised or refuted by further exploration of the field. The aim of study 2 was to explore and describe Danish, newly graduated nurses' use of knowledge sources in clinical decision making. The two studies are represented in three papers, each guided by specific objectives:

Study 1

- To describe the knowledge sources newly graduated nurses use in their clinical decision making as documented in qualitative, research-based reports (Paper I)

Study 2

- To explore and describe which knowledge sources are incorporated in and guide newly graduated nurses' clinical decisions, and what influences on how the knowledge sources are used in clinical decision-making (Paper II)

- To explore and describe how socialisation into a clinical setting influences the use of knowledge sources among newly graduated nurses (Paper III)

CHAPTER 3. RESEARCH DESIGN

The following section contains a brief description of the philosophical assumptions the studies are based on, followed by a description of research methodologies and methods used to explore the aim of the study. The thesis builds on two studies, study 1 being a meta-ethnography as described in paper I and study 2 an ethnographic study as described in papers II and III.

3.1. PHILOSOPHICAL ASSUMPTIONS

The thesis was carried out within an interpretive paradigm. As the use of knowledge sources in clinical decisions are contextually, socially and culturally determined (Higgs and Jones 2008), a social constructivist approach that lies within the interpretive paradigm was chosen (LeCompte and Schensul 2010). Within social constructivism, multiple realities are acknowledged (ontological), and knowledge is socially constructed from discourse and social interaction between the researcher and the individual (epistemological) (Crotty 1998; Parahoo 2006; Bazeley 2013). The social constructivist approach allows a descriptive 'how' and an interpretive 'why' approach to the study (Bazeley 2013) which opens up for observation, description and interpretation of the phenomenon under study (LeCompte and Schensul 2010). Studying and elucidating a phenomenon within a social constructivist understanding requires interaction with the informants in their natural setting and articulation of the informants' reality. For the first study, meta-ethnography was the chosen method due to its interpretive approach to synthesis and consideration of contextual influences (Noblit and Hare 1988). For the second study, ethnography was chosen as the methodology, enabling a research process which unfolds in interaction between the researcher and the informants, resulting in an interpretive story based on the construction of understandings of the phenomenon (LeCompte and Schensul 2010).

3.2. STUDY 1 - META-ETHNOGRAPHY

The following description of the synthesis of qualitative research is based on paper 1 '*Newly graduated nurses' use of knowledge sources – a meta-ethnography*', published in Journal of Advanced Nursing (Voldbjerg et al. 2016a).

3.2.1. AIM

The aim of the synthesis was to explore which knowledge sources newly graduated nurses use in clinical decision making as reported within international qualitative

research. The synthesis had two purposes. One was to strengthen qualitative data by synthesising current research to a bigger 'whole' and enable the transfer of findings across conditions and clinical settings (Noblit and Hare 1998; Zimmer 2006; Leeman and Sandelowski 2012), thereby providing evidence for interventions in clinical practice (Britten et al. 2002; Campbell et al. 2011). The second purpose was to build a theoretical foundation, which could guide the further exploration of Danish, newly graduated nurses' use of knowledge sources in study 2.

3.2.2. DESIGN

To generate a fuller understanding of the studied phenomenon, meta-ethnography - as described by Noblit and Hare (1988) - was applied as the method of synthesis due to its acknowledgment of contextual influences on findings and interpretive orientation. Noblit and Hare's seven overlapping phases (Table 1) for synthesis enabled a systematic approach for identification, justification, translation and synthesis of findings from qualitative reports (Noblit and Hare 1988).

Phase 1: Getting started
Phase 2: Deciding what is relevant to the initial interest
Phase 3: Reading the studies
Phase 4: Determining how the studies are related
Phase 5: Translating the studies into one another
Phase 6: Synthesising translations
Phase 7: Expressing the synthesis

Table 1: Noblit and Hare's seven phases for synthesis

3.2.3. DATA COLLECTION

Following the formulation of the research question '*Which knowledge sources do newly graduated nurses use?*' (Phase 1), an iterative literature search in the databases CINAHL, PubMed, SCOPUS and Google Scholar was undertaken by two researchers from May 2013 to May 2014 (Phase 2). The following key words were used alone or in combination: newly graduated nurse, newly qualified nurse, novice, graduated nurse, nurse, knowledge, knowing, information seeking and clinical decision-making. The search was restricted to studies in English or a Scandinavian language published after January 1993 where the first article using the word 'evidence-based practice' was indexed in CINAHL. Inclusion and exclusion criteria are displayed in Figure 1. Database searches were followed by manual searching of references in retrieved qualitative studies and succeeded by backwards and forwards

citation searching. Search strategy and outcome are outlined in Figure 1. A total of 19 reports, representing 17 qualitative studies published between 2000 and 2014, were included in the synthesis (included reports displayed in Appendix A). The qualitative studies were conducted in Australia, Canada, New Zealand, Norway, UK and USA within a variety of clinical settings. Approximately 150 nurses were represented in the studies. Nine studies were based on individual interviews, three on focus group interviews, two on individual and focus group interviews, two on interviews and observation and one on interviews and reflective journaling. Different approaches to the analyses were used, including phenomenology, grounded theory and thematic, content, comparative and narrative analysis. The reports were read thoroughly by four experienced, qualitative researchers within nursing (Phase 3), using the CASP (Critical Appraisal Skills Programme) for systematic reading and comparison of the researchers' appraisals (Collaboration for qualitative methodologies 1989; Dixon-Woods et al. 2007; Newton et al. 2012).

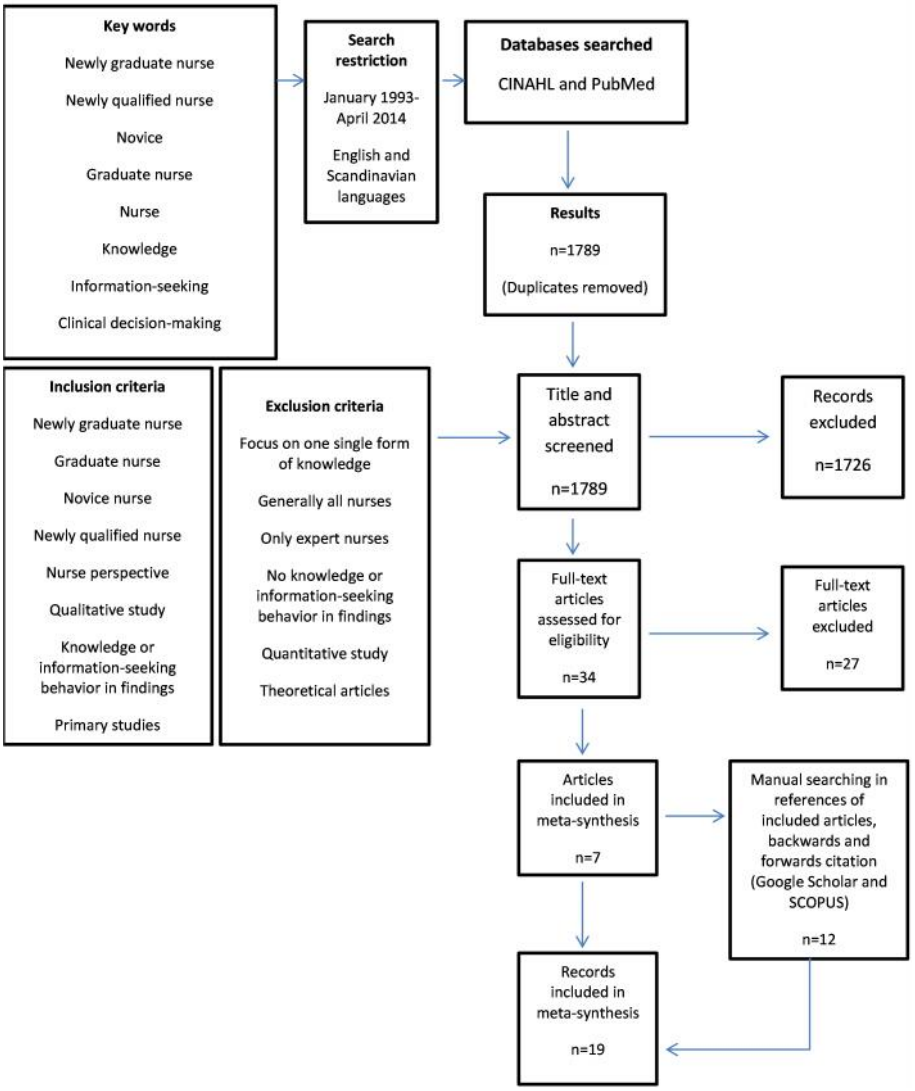

Figure 1: Flow diagram of literature search

3.2.4. ABSTRACTION AND SYNTHESIS

To determine how the studies were related (Phase 4), the reports were read with the research question in mind. Passages portraying the use of similar knowledge sources were grouped and the following second-order interpretation of key concepts was retrieved: co-workers, doctors, preceptors, patients, documents, personal and

educational knowing. To establish the relations across reports, the reports were subsequently reread guided by the key concepts in order to seek disconfirming (refutation analysis) and confirming (reciprocal analysis) cases. No disconfirming cases were found. The key concepts were used to form themes in a reciprocal translation (Phase 5), where data from an earlier report were translated into the following (Atkins et al. 2008). A third-order interpretation was developed as a line of argument through the synthesis of second-order key concepts across reports (Phase 6). One main theme, two subthemes and several categories were constructed following the synthesis. The synthesis was expressed though a visual display (Phase 7) (Figure 2 displayed in section 4.1).

3.3. STUDY 2 - ETHNOGRAPHIC STUDY

The following is a short description of how study 1 informed study 2, followed by a description of the ethnographic study (study 2) presented in paper II '*Newly graduated nurses' use of knowledge sources in clinical decision-making: An ethnographic study*' (Voldbjerg et al. 2016b) and paper III '*Newly graduated nurses' socialisation into limiting inquiry and one-sided use of knowledge sources: An ethnographic study*' (Voldbjerg et al. 2016c).

3.3.1. STUDY 1 INFORMING STUDY 2

The meta-ethnography served as a review of research literature on the phenomenon under study and a 'prelude' to study 2, helping to focus the study based on previous research (Campbell et al. 2011). The emphasis of the results on contextual issues influencing newly graduated nurses' use of knowledge sources in clinical decision making supported the relevance of an ethnographic study which allowed for exploration and description of the context and behaviour of the newly graduated nurses. Furthermore, the results underlining the impact of the transitional phase on the use of knowledge sources and the newly graduated nurses' perception of themselves as nurses guided the inclusion criteria of the informants in study 2 and defined an additional category in the interview guide for the transitional phase. The findings supplemented the researcher's background knowledge and were used to question and bring focus to the subsequent data collection and to analyse, interpret and discuss the findings from study 2 in a wider international context of research (LeCompte and Schensul 2010).

3.3.2. AIM

The aim of study 2 was to explore and describe which knowledge sources are incorporated in and guide Danish, newly graduated nurses' clinical decisions and the influences on how the knowledge sources are used in clinical decision making (paper II). Following initial data analysis, it became clear that the newly graduated nurses' socialisation into a clinical setting played a key role for the knowledge sources used. Hence, a second analysis of the data was made with specific focus on the influence of socialisation on newly graduated nurses' use of knowledge sources (paper III).

3.3.3. ETHNOGRAPHY AND FOCUSED ETHNOGRAPHY

Ethnography was the qualitative methodology of study 2. Clinical decision making is a social process influenced by culture, norms and standards (Rycroft-Malone 2008; Sigma Theta Tau 2008; Lien et al. 2010). Decisions are not made single-handedly within the field of nursing. They are influenced by the situation, the environment and the people surrounding the nurses as much as by the individual nurse (Higgs and Jones 2008; Seright 2011). Nursing has been defined as a subculture with unique beliefs and practices within the healthcare system (Roper & Shapira 2000). Taking the social, cultural and contextual influence on clinical decision making into account, ethnography - which allows for the understanding of contexts, processes and meanings from the informants' perspective - was chosen as the qualitative methodology (LeCompte and Schensul 2010; Hammersley and Atkinson 2007). The purpose of ethnography is to explore what people do and their reasons for doing it (Roper & Shapira 2000; LeCompte and Schensul 2010).

Principles from focused ethnography were integrated into the methodology due to the researcher's familiarity with the field as a nurse and nurse educator. Within anthropological ethnography, the researcher is often unfamiliar with and unknown to the field researched (Hammersley and Atkinson 2007). However, in this study the researcher had thorough insight into the field. Within healthcare science, there is often a commonly shared knowledge between informants, the research field and the researcher (Knoblauch 2005; Higginbottom et al. 2013). To take these prerequisites into account, aspects such as prior insight into the field and time restriction, that are described within focused ethnography were integrated into the methodology. Focused ethnography addresses aspects of using ethnography within the field of healthcare (Higginbottom et al. 2013). Referring to the researcher's prior insight into the field, Knoblauch talks of '*alterity*' as opposed to strangeness to the field. Knowledge of and familiarity with the field are essential in formulating research questions that are relevant to the topic and the development of the field. Insight into the field requires particular attention to a reflective approach (Knoblauch 2005). The

restricted time span spent within the field is another aspect addressed within focused ethnography. Given the time restriction and the limitations to active participation in the clinical field, the researcher entered the field in the role of observer-as-participant (Gold 1958; Kawulich 2005; Higginbottom et al. 2013).

Participant-observation and semi-structured interviews of the newly graduated nurses were chosen as methods for data collection. Ethnography enabled a recursive process between data collection and analyses, providing an opportunity to gain insight into an underlying reservoir of cultural knowledge, which is not direct and visible (Roper and Shapira 2000; LeCompte and Schensul 2010).

3.3.4. SAMPLING

Nine newly graduated nurses with clinical experience ranging from nine to 20 months were included in the study. All nine nurses had a bachelor's degree from the same school of nursing in Denmark. The newly graduated nurses had participated in an orientation programme at the hospital ranging from two weeks to five months. Three had received formalised education within the highly specialised medical specialty they belonged to.

The increased international focus on quality improvement within healthcare has resulted in reformation of the nursing education. Following the 'Bologna Declaration' (The European higher education area 1999) and the 'Bologna Process' of 1999, the Danish nursing education was reformed in 2001 and became a bachelor's degree programme in nursing, with greater focus on academic skills. In 2008, the curriculum was revised based on concerns and criticism from the clinical field that nurses were insufficiently prepared in regard to clinical skills. A national curriculum applicable to all nursing educations was subsequently implemented, with greater focus on clinical skills and collaboration with the clinical field (Ministry of Education 2008). The nurses in this study have a three-and-a-half year education based on 120 theoretical credits and 90 clinical credits (Ministry of Education 2008).

Following the 'Bologna Process', nurse educators have a master's degree as a minimum. Educational interventions developing and supporting critical reflection, lifelong and self-directed learning have been implemented. Using pedagogical methods - such as case-based and problem-based learning - the students are taught research methodology and how to formulate questions, critically appraise research, implement evidence and evaluate practice (Ministry of Education 2008).

In accordance with focused ethnography, the informants had to have specific knowledge and experience in relation to the research question and were therefore purposively sampled (Higginbottom et al. 2013). To generate a robust, rich and in-

depth understanding of the use of newly graduated nurses' use of knowledge sources in clinical-decision making, inclusion criteria were limited to newly graduated nurses with six to 18 months of clinical experience at the time of inclusion (Hammersley and Atkinson 2007; LeCompte and Schensul 1999). The selection of informants was guided by study 1 and studies describing how nurses only started to feel comfortable as nurses around six months after graduation, following an overwhelming and challenging introductory phase (Clark and Holmes 2007; Newton and McKenna 2007; Duchscher 2008) as well as Benner's definition and portrayal of the 'advanced beginner' (Benner 1984) which is within the first two years of clinical practice.

To secure management support and willingness to cooperate and participate in the project (Roper & Shapira 2000), head nurse leaders at a university hospital in Denmark received written information on the project and were asked to inform relevant nurses about the project. The nurses were not appointed as it was imperative that they participated voluntarily, having the time and desire to participate in the project (Maunsbach and Lunde 2003). Eleven newly graduated nurses agreed to participate, however, two nurses subsequently left the study due to job changes. Thus, nine newly graduated nurses distributed on eight wards at the Danish university hospital were included in the study. Table 2 outlines the length of clinical experience of each nurse at time of observation and the previous experience within their unit.

Informant	Overall months of clinical practice	Months of clinical practice in unit	Months of clinical practice in other units
1	9	9	0
2	17	17	0
3	13	7	6
4	13	13	0
5	13	12	1
6	20	20	0
7	19	19	0
8	20	20	0
9	19	19	0

Table 2: Length of informants' clinical experience

According to the literature, the exact sample size for inclusion in qualitative studies is impossible to decide prior to initiating the project. The number of informants needed depends on the richness of data generated, and the sample size is therefore altered as the study progresses (Bazeley 2013). Based on the studies included in study 1, the meta-ethnography and previous, qualitative and ethnographic studies with focus on knowledge use and clinical decision making among nurses, the

preliminary number was set at 10-12 informants (Duchscher 2003; Manias 2004; Lien, Hanssen & Andenæs 2010; Skår 2010; Wiles 2010; Seright 2011). The collection of data from observations and interviews continued until a point of saturation was reached, i.e. where data supported the developed patterns and no new information refuted the defined patterns (LeCompte and Schensul 2010; Bazeley 2013). Data saturation was reached following the analysis of data from the eighth informant, and no attempt was made to include additional informants.

3.3.5. SOCIAL SETTING

To gain insight into the context and cultures the newly graduated nurses worked within, they were observed within their usual social setting in their daily working routines. Data were collected between May and November 2014 at four medical wards, three surgical wards and one operating unit. The caring staff consisted primarily of nurses in all wards. To draw attention to the importance of patient-centred care, the Clinical Nursing Research Unit at the university hospital published a research strategy for 2013-2018 with the title 'The patient in front', which emphasizes research projects and quality improvement with a specific focus on patient-centred care (Clinical Nursing Research Unit 2013).

From 2005 to 2016, public hospitals in Denmark have been part of the 'Danish Healthcare Quality Programme', an accreditation programme where hospitals were continually accredited according to standards of treatment and care with a clear emphasis on clinical evidence-based practice (IKAS 2012). This process has placed the use of national clinical guidelines at the centre of attention and has among other things contributed to the establishment of a national Centre for Clinical Guidelines (Centre for Clinical Guidelines).

3.3.6. OBSERVATION

To explore which knowledge sources newly graduated nurses use in clinical decision making, the nurses were observed in their daily interaction with patients and colleagues in their natural work setting at the wards (Roper and Shapira 2000). The researcher entered the field as observer-as-participant with limited interaction (Kawulich 2005; Higginbottom et al. 2013). As the aim of the study was partly to gain insight as to how the nurses' social interactions and context influenced their use of knowledge sources, it was important not to distract or influence their usual behaviour and working routine by the active participation of a researcher (Kawulich 2005). The researcher shadowed the nurses for one to three eight-hour shifts resulting in a total of 174 hours of observation. The observations started with a descriptive observation, noting the nurses' actions, interactions, statements, language and contextual factors such as noise, surroundings, language and work

organisation. Collected data were continuously analysed in order to identify new focused questions that would guide the data collection and thus narrow the focus of the observations (Spradley 1980; LeCompte and Schensul 2010). Field notes were initially condensed accounts taken during observation, which were expanded following each observation and subsequently transcribed (Spradley 1979).

To accommodate the awkwardness of having a third part person dressed as a civilian in the patient room, the researcher wore a nursing uniform, which to some extent legalised her presence by exhibiting a professional background as a nurse and indirectly an understanding of the patients' situation, including maintaining the patients' integrity and need for discretion. However, at the same time, the researcher was placed in the background, and a notebook and pen showed that the researcher's errand was different from that of the nurses.

3.3.7. SEMI-STRUCTURED INTERVIEW

To elaborate and obtain a deeper insight into the situations observed, observations were followed by a semi-structured interview of the newly graduated nurses (Spradley 1979; Hammersley and Atkinson 2007; Fetterman 2010). The observations were mainly based on etic data, i.e. the researcher's interpretation of what happened. The interviews provided an opportunity to obtain emic data from the newly graduated nurses' perspective (Hammersley and Atkinson 2007).

The interviews lasted between 35 and 75 minutes and were held in a quiet room at the hospital, chosen by the informant. To ensure the researcher's full attention on the informants, the interviews were audio recorded. Transcriptions of the recordings permitted an analysis of the newly graduated nurses' exact use of terminology and phrasing which partly reflect their understanding of knowledge sources. The researcher's thoughts, reflections, feelings, mistakes, questions and ideas that emerged during the interviews were noted in a field work journal following each interview (Spradley 1979).

The newly graduated nurses were not interviewed during the observations, as recommended in ethnographic research (Spradley 1979). Questions regarding their decision making and a reminder of the researcher's presence would interfere with their workflow and therefore not provide an opportunity to gain insight into their usual working routines. This notion became obvious following the first three observations where the informants stated that the mere presence of the researcher had initiated a reflection within themselves concerning the base of their decisions. Two of the nurses expressed it this way: *'Having you walking behind me has suddenly made me consider why I do things the way I do'* (citation from interview informant 1) and *'I actually think it has been really good having you following me*

around, because it has made med consider how I do things. Even now, following the interview I've become more aware of why I do things the way I do and what lies behind my actions' (citation from interview informant 3). Having an outsider observing them provoked a reflection on their doing.

Informants' perception of the researcher's genuine interest in them is a prerequisite in order for the informants to open up and talk (Spradley 1979). The researcher therefore started the interview by explaining to the newly graduated nurses that they possessed unique knowledge, which the researcher could only access through the nurses' narratives, explanations and answers. Their construct of meaning was fundamental to the project. To support the trust gained through the observations and the predictability as to what was about to happen, each interview was initiated by recapturing the purpose of the interview and how it would add to the observational data (Spradley 1979). Additionally, the newly graduated nurses were informed of the recordings and their deletion following transcription and reminded that data would be anonymised. The topics that would be covered and the type of questions posed were briefly presented.

Initially, an interview guide was designed based on the researcher's theoretical knowledge of aspects where it was relevant to obtain perspectival, emic data from the informants. The interview guide was refined and elaborated parallel to the analysis of collected data. Following the analysis of data from the first two informants, the topic 'critical reflection' was added, and the questions became more focused and specific in order to explore aspects relevant to the newly graduated nurses' use of knowledge sources. Data from the observations provided the researcher with specific situations of decision making which formed the base of the interview, making it possible for the informants to relate to the questions and eventually answer in more detail (Fetterman 2010). The interview guide consisted of descriptive questions, structural questions and contrast questions (Spradley 1979) (Table 3). The initial questions were descriptive questions based on situations from the observations where the informant was observed making a clinical decision. Questions starting with 'Could you tell me … or ... could you describe …' allowed the newly graduated nurse to describe her perspective of a shared situation in a narrative form. Spradley highlights that '… *questions and answers come from two different meaning systems. Investigators from one cultural scene draw on their frame of reference to formulate questions'* (Spradley 1979 p. 83). Ethnographic research is about getting the emic perspective, which is partly mirrored by the informants' choice of terminology - what is emphasised and what is not mentioned. The narratives allowed the researcher to use the informants' terminology, enhancing the ability to relate to the questions posed and thus to the answer (Fetterman 2010).

Type of questions	The use of knowledge sources	Being a newly graduated nurse	Critical reflection on practice
Descriptive questions	Tell me about … (specific situation of decision making from the observation) *or* Describe … (specific situation of decision making from the observation)	Tell me how it has felt like to be a newly graduated nurse?	Describe a situation of reflection from recent days? Are there different kinds of reflections? If so, describe what the difference is?
Structural questions	What did you base your decision on? What made you decide to …? Why did you use that source? Did you consider other possibilities?	What has been of help in the transitional phase? What has supported your confidence as a nurse? When did you start to feel like a nurse?	What initiated the reflection? What is needed for you to reflect on clinical practice?
Contrast questions	What is the difference between ...	What is the difference between ...	What is the difference between ...

Table 3: Semi-structured interview guide

To prevent the newly graduated nurses from adopting the researcher's theoretical and conceptual framework (Fetterman 2010), the researcher used neutral terminology and was careful not to define knowledge sources. Questions regarding the use of knowledge sources were formulated as follows '*What did you base your decision on?*' This permitted the informants to decide what they understood as knowledge sources. The words 'evidence' and 'evidence-based practice' were deliberately only used at the initial meeting with the newly graduated nurses. When using descriptive, open-ended questions, there is always the risk that informants drift towards topics, which are not relevant to the study. In these situations the shared experience which formed the base of the descriptive questions was used to refocus the attention on the topic without the researcher taking too explicit control, thus depriving the informants of their storytelling.

To gain insight into the way in which the newly graduated nurses defined reality and into the wards' cultural norms - which partly make themselves known through language - structural questions were posed (Spradley 1979; Fetterman 2010). Narrative questions such as 'What did you base your decision on … or … what

made you decide to …' were posed. To refine the informants' understanding of different terms, contrast questions were used, such as 'What is the difference between …'(Spradley 1979). Throughout the interviews, answers and narratives were recaptured and paraphrased by the researcher in order to draw attention to what the informants said, thereby giving the informants the possibility to consider if the answer should be elaborated (Spradley 1979). Additionally, recapturing was used as a means of validation.

3.3.8. REFLEXIVITY

In ethnographic research, the researcher's eyes and ears are the primary tools for data collection (LeCompte and Schensul 2010). The researcher inherently becomes part of the setting that is being explored, influencing the site, the data collection and the analysis of data (Whitehead 2004; Hammersley and Atkinson 2007; LeCompte and Schensul 2010). This demands continuous reflection on the researcher's role and influence on the research process (Denzin and Lincoln 2013). Knowledge is constructed based on interaction between researcher and informant. As a nurse and nurse educator, the primary researcher of this study had insider knowledge. This called for reflexivity on the issue of the insider-outsider role (Labaree 2002) and how to meet/accommodate eventual bias in relation to the collected data. In this study, the researcher was both an insider and outsider to the setting – an insider due to educational and experiential background within nursing, but an outsider to the clinical setting that had not previously been frequented by the researcher. On the one hand, the thorough insider knowledge of the field enabled the researcher to gather data with intensity, despite a restricted time frame, which added richness to the data and the analyses (Knoblauch 2005; LeCompte and Schensul 2010) - while being an outsider provided an opportunity to ask naïve questions (Gerrish 2003). On the other hand, there was a risk that the insider knowledge and thus a preunderstanding would restrict the 'lens' through which the researcher observed, collected and interpreted data, leaving out central aspects of the phenomenon. This called for sensitivity to the researcher's knowledge and assumptions regarding the field (Labaree 2002) and was challenged by reflexive journaling, reading literature, reflecting and discussing with supervisors and fellow PhD students (Gerrish 2003).

The researcher was known to eight of the nine informants as a lecturer at the school of nursing. Therefore, the researcher was extra careful in monitoring how this previous relationship might influence the interaction and thus the data collection. Previous roles as teacher and student might cause nervousness and a feeling of obligation to act correctly, thus not mirroring usual clinical practice. To gain and maintain access to the world of the informant, it is essential to establish a trustful relationship between the informant and researcher (Spradley 1979; Fetterman 2010). Thus, already at the initial meetings with the informants the researcher assumed a

humble and curios role and made it clear that in this situation the researcher was the one lacking knowledge and being dependent on the newly graduated nurses to gain access to their perspective. The researcher had to learn from the informants (Spradley 1979; LeCompte and Schensul 2010).

3.3.9. ANALYSIS

Analysis is about making sense of what has been observed and heard (LeCompte and Schensul 2010). Data collection and analyses were carried out in a recursive analytical process inspired by LeCompte and Schensul's approach to analysis and interpretation of ethnographic data (LeCompte and Schensul 1999). Analysis within ethnography is an explorative process where questions are continually posed and answers sought with the aim of generating theoretical explanations (LeCompte and Schensul 2010). The analysis is described in four separate steps although they were overlapping during the recursive process.

Step 1. *In-Field Analysis.* Analysis was initiated as soon as the researcher entered the field to collect data. The collection and analysis of data was a recursive process where the preliminary analysis and interpretation informed and focused on further data collection and the questions of the semi-structured interviews (LeCompte & Schensul 1999; Hammersley & Atkinson 2007; Fetterman 2010). Following the first three observations and interviews, field notes and audio recordings were transcribed and analysed by the author of this thesis. The data collection and analysis were initially guided by the research question and the researcher's ideas and theoretical knowledge of newly graduated nurses' use of knowledge sources. However, as the process of data collection and interpretation evolved, the focus of observation, the questions and the analysis became more data-driven. As described by LeCompte and Schensul, ethnographic analysis moves recursively between a deductive and inductive process (LeCompte and Schensul 2010). Preliminary categories were defined, and interview questions and observations were specified and refined to gain better insight into the newly graduated nurses' use of knowledge sources (LeCompte & Schensul 1999; Hammersley & Atkinson 2007). The context from each ward was described in order to be able to monitor contextual similarities and differences and how such similarities and differences may or may not influence the newly graduated nurses' use of knowledge sources. Data from informants were transcribed and analysed after each observation and interview. Reflective notes on thoughts, ideas and questions to the data were kept in a field journal.

Step 2: *Analysis from the Bottom-Up - The Item Level of Analysis.* Transcriptions were read several times by the author of this thesis in order to gain thorough insight and become familiar with the transcribed data. Data were analysed twice with two different foci. The first analysis was guided by the aim of the study which was to

explore and describe which knowledge sources are incorporated into and guide Danish, newly graduated nurses' clinical decisions, and which factors affect the way in which the knowledge sources are used in clinical decision making. The analysis was guided by the questions shown in Table 4. As a result of the first analysis, it became clear that the newly graduated nurses' socialisation into a clinical setting played a key role as to the knowledge sources used. To explore this further, a second analysis of the data was made with specific focus on the influence of socialisation on newly graduated nurses' use of knowledge sources. This analysis was guided by the questions shown in Table 5. The questions evolved from reflective notes and questions made during the initial attentive and thorough reading of the transcribed data (LeCompte & Schensul 1999). Data were reviewed line-by-line, and similar items reflecting the use of knowledge sources were identified and coded. Passages from the transcribed data were discussed with members of the research team. Sentences and paragraphs describing sources of knowledge were coded to exploit and retrieve contextual connections, influences and meanings on the use of knowledge sources (LeCompte and Schensul 1999).

What knowledge sources are used?
What characterises the knowledge source?
Why is the knowledge source used?
How is the knowledge source used?
When is the knowledge source used?
How is the knowledge source articulated?
What are the contextual factors affecting the knowledge source?
How is the knowledge source legitimised?

Table 4: Questions guiding the first analysis

What do the new graduates seek advice about?
When do they seek advice?
How do they seek advice?
How are the questions posed?
What ignites the questions/advice-seeking?
In which situations do they not seek advice?
How do colleagues respond to the questions?
Is there always a connection between time and the use of colleagues as a knowledge source?
Do perceived expectations from colleagues influence the use of knowledge sources?
Which role does the feeling of uncertainty play in the use of knowledge sources?

Table 5: Questions guiding the second analysis

Step 3: *Identifying Patterns or Structures.* Patterns and structures were identified by establishing connections among coded items. Codes conveying similar ideas and mirroring the use of knowledge sources were categorised in patterns, and structures were formed (See Appendix B). To explore and enrich the identifications of patterns and structures, the reflective process was supported by the reflective notes from step 2 and the questions shown in Tables 4 and 5.

Step 4. *Fine-Tuning Results.* In the final step of analysis, retrieved structures were compared and discussed with previous, relevant theory and research, and their meaning, interrelationship and significance were explored within the context of healthcare and nursing education (LeCompte and Schensul 1999). This final interpretation allowed the researcher to explore why and how the results supplement or elaborate on existing research.

3.3.10. ETHICAL CONSIDERATIONS

Ethical approval of the study was obtained from the Scientific Ethical Committee of the North Denmark Region, and the Data Protection Agency for Health Scientific Research in North Denmark Region was notified of the project (Project number: 2008-58-0028) (Appendices C, D). It is a researcher's responsibility to take ethical considerations into account while designing and conducting research (LeCompte and Schensul 2010). The Code of Ethics of the World Medical Association (Declaration of Helsinki) and Ethical Guidelines for Nursing Research in the Nordic Countries (Northern Nurses' Federation 2003) were followed in the design and conduct of the research. In this study, considerations were shown to the possible harm a focus on the newly graduated nurses' competence may have on the nurses. It was imperative for the researcher to clarify at the initial meeting that the aim of research was *not* to evaluate and judge the nurses' skills and competence, but to describe and explain why they do as they do. The clinical management at five clinics at a Danish university hospital was informed and queried with regard to the forwarding of a request for informants to the study (Appendix E, F). Written and verbal information about the study was provided to the newly graduated nurses and nurse leaders of the departments (Appendix G). The newly graduated nurses signed a form of consent, stating that written and verbal information about the study had been provided and that they could withdraw from the project at any given time without further explanation (Appendix H). Other healthcare staff and affected patients were informed of the project and the purpose of the researcher's presence on the day of observation (Appendix I). Transcripts and other data on informants were anonymised and audio recordings deleted following transcriptions.

CHAPTER 4. FINDINGS

The overall aim of this thesis was to explore *which* knowledge sources newly graduated nurses use in their clinical decision making and *why* they use them, in order to understand why newly graduated nurses only use research and components within evidence-based practice to a limited extent. To achieve the overall aim, the findings from study 1 and study 2 were synthesised to create new interpretations (Noblit and Hare 1988; Seers 2012). The findings were read in order to determine how they relate to each other, looking for supporting and/or contrasting concepts. By comparing themes and structures from the findings, new concepts were identified which led to a new interpretation. In the following, a summary of the findings from study 1 and study 2 is presented based on paper I: *'Newly graduated nurses' use of knowledge sources: A meta-ethnography'* (Voldbjerg et al. 2016a), paper II: *'Newly graduated nurses' use of knowledge sources in clinical decision-making: An ethnographic study'* (Voldbjerg et al. 2016b*)* and paper III: *'Newly graduated nurses' socialisation into limiting inquiry and one-sided use of knowledge sources – An ethnographic study'* (Voldbjerg et al. 2016c). The summaries are followed by a synthesis of the findings.

4.1. META-ETHNOGRAPHY - SUMMARY OF FINDINGS FROM PAPER I

The aim of the first paper based on study 1 was - on the base of a synthesis of findings of qualitative studies - to describe the knowledge sources newly graduated nurses draw on in clinical decision making.

Newly graduated nurses' use of knowledge sources during the first two years of clinical practice was described within one main theme 'self and others as knowledge sources' with two subthemes 'doing and following' and 'knowing and doing', each with several categories (displayed in Figure 2). The newly graduated nurses used co-workers, doctors, preceptors, patients and documents as external sources and personal and educational knowing as internal sources of knowledge. For the initial six months, the newly graduated nurses were doers and followers, primarily using external knowledge sources. Following the first six months of clinical practice, the informants began to recognise patterns and developed confidence in own decision making. They became more like knowers and doers and combined internal knowledge sources with external sources in their clinical decisions. Although the studies represent six western countries and different hospital and healthcare settings, there were similarities with respect to the used knowledge sources.

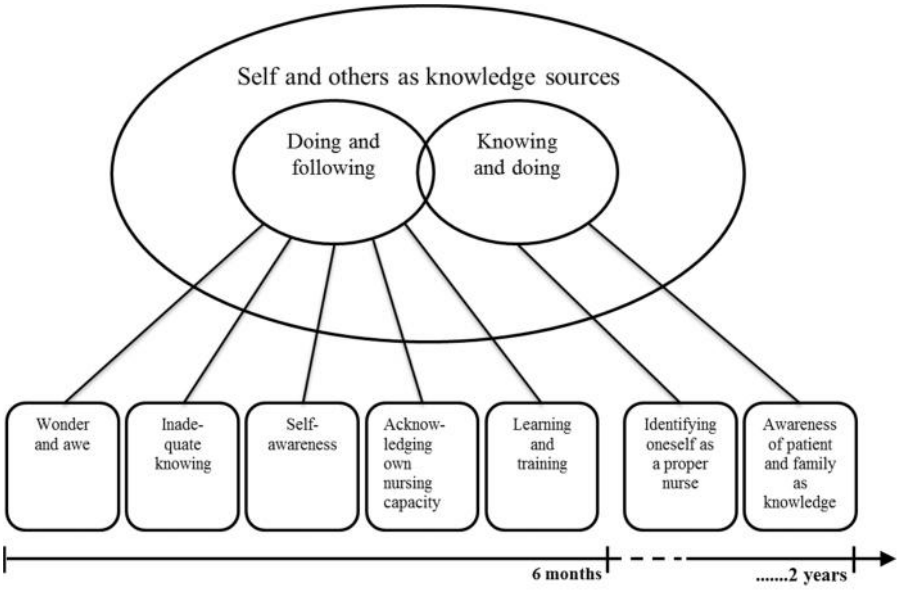

Figure 2: Mapping of themes, subthemes and categories

'Doing and Following'

For the first few months, the newly graduated nurses were in a state of wonder and awe about the experienced nurses' knowledge and skills and their willingness to welcome them into the team of nurses. They followed the experienced nurses' doings uncritically and without questioning. The newly graduated nurses had a perception of being inadequately prepared from nursing school and thus having inadequate knowledge to care for the patients. They were overwhelmed by the responsibility they were faced with and experienced a dichotomy between what they had been taught and the practice they encountered. They turned towards themselves in a self-awareness and questioned their own competence. Their perception of being inadequately prepared was reinforced by colleagues' lack of support with respect to critical reflection and using the theoretical and practical knowledge they had acquired. This left the nurses prone to just following rather than critically questioning practitioners. Working alongside experienced nurses, learning and training were primarily centred on task-oriented training, routines and procedures. Towards the end of the first six months, they slowly gained knowledge and confidence and their uncertainty gradually diminished. They started to acknowledge own nursing capacity and realised that being a nurse implies an ongoing learning process.

'Knowing and Doing'

After six months, the newly graduated nurses started to identify themselves as proper nurses. Following rules, learning sets of skills and procedures and managing task-oriented procedures gave them a feeling of confidence. Mutual respect and acknowledgment as knowledge sources between newly graduated nurses and experienced nurses evolved towards the end of the second year of clinical practice. The newly graduated nurses began to perceive themselves as valuable knowledge sources in the teamwork and felt capable of making clinical decisions and justifying them. Along with increased confidence in themselves as nurses, they developed an awareness of patient and family as knowledge sources.

4.2. ETHNOGRAPHIC STUDY – SUMMARY OF FINDINGS FROM PAPER II AND III

In the following, findings from study 2 - which were presented in papers II and III - are summarised separately.

4.2.1. SUMMARY OF FINDINGS FROM PAPER II

The aim of the study was to explore which knowledge sources are incorporated into and guide Danish, newly graduated nurses' clinical decisions, and which factors influence *why* and *how* the knowledge sources are used in clinical decision making. The newly graduated nurses' use of knowledge sources was described within the three main themes: 'other', 'oneself' and 'gut feeling' (Figure 3). The sources interacted with one another and ranged from overtly external to covertly integrated sources. They were influenced by contextual, personal and educational factors.

'Other' as a Knowledge Source

'Other' as a knowledge source was described through the following five categories: the experienced nurse as the imperative knowledge source, the physician as the educative knowledge source, patients and relatives as the unperceived knowledge source, documents as routinized knowledge source and education as the insufficient, covert knowledge source.

The experienced nurse was the predominant knowledge source used by newly graduated nurses when unsure about clinical decisions. The experienced nurse was regarded as a legitimate source due to her professional experience and was often used as an unofficial mentor or 'sounding board'. Due to the newly graduated

nurses' lack of knowledge and experience within the medical specialties they worked with, they were dependent on the experienced nurse to make safe decisions on patient care. The newly graduated nurses were only critical and only questioned the experienced nurse's advice when the advice contradicted their own ideas of what had to be done, ideas based on the new graduates' often limited knowledge of the specialty and sparse clinical experience. The newly graduated nurses were undiscerning with regard to the kinds of questions they posed to the experienced nurse and the answers thus used at the expense of sometimes stronger evidentiary sources like guidelines or research-based theory. When asked for advice, the experienced nurse responded by telling the new nurse what to do, rather than encouraging the nurse to reflect and possibly seek other relevant sources of knowledge. Being told what to do and how to do it confirmed the newly graduated nurse's perception of not being sufficiently knowledgeable to care for the patients. The experienced nurse thus became an imperative source of knowledge.

Due to the newly graduated nurses' limited knowledge and training within the highly specialised wards where they worked, they became dependent on the physician as a knowledge source. Physicians were seen as a legitimate source of knowledge by virtue of their educational background and authority and were sought out as educators, primarily concerning medical and pharmacological matters. The new graduates' sparse knowledge of the medical specialty initially limited their ability to question the physicians as a knowledge source, but as they became familiar with the routines and patients, they gained the confidence to challenge the physicians' guidance and decisions.

The newly graduated nurses were observed drawing on patients and relatives as knowledge sources informing their clinical decisions, however, when interviewed they did not refer to them as knowledge sources. The new graduates reported that even though they had the wish to incorporate the patients more actively into clinical decisions they felt constrained by lack of time and a perception that taking the time to communicate and build a trustful relationship was not seen as part of the nursing tasks in the wards. The patients and relatives were legitimised as knowledge sources through a genuine feeling of empathy and the nurses belief in holistic care. In wards where care seemed driven by procedures, the medical specialty often overshadowed other fundamentals of needed care, and less attention was paid to the individual. A lack of knowledge of the specialty hindered relevant observations and the incorporation of the patient in decisions.

The newly graduated nurses' conscious and reflective use of clinical guidelines, procedures and standards as knowledge sources varied among the eight wards. Only one nurse used guidelines regularly. Other nurses were observed as providing care based on guideline recommendations, however, when asked to describe these situations at the subsequent interviews, they were not aware of this use. Instead, they referred to the situations as tasks they had once learned from an experienced nurse.

The newly graduated nurses expressed a concern that using guidelines would display their uncertainty and lack of knowledge. Medical records, nurses' records and a website with information on medication were used routinely to get an overview of the patients. However, the use of the medication website in some instances seemed to be tied to an unreflective routine rather than seen as a necessary reflective task tied to the administration of medication.

The newly graduated nurses found it challenging to define and articulate knowledge derived from nursing education. When mentioned as a source, it was mainly with reference to pharmacology, anatomy and physiology. Theories on holistic nursing and communication were also mentioned, but more reluctantly. Due to its educational origin it was seen as a legitimate source, however, there was a general perception among the newly graduated nurses that nurse education had failed to prepare them sufficiently for clinical practice. Theories taught often did not mirror the real life of clinical practice and created more confusion than good.

'Oneself' as a Knowledge Source

'Oneself' was a source of knowledge that was integrated into the newly graduated nurse, deriving from personal and professional experience, a source initially difficult to articulate and requiring reflection and consideration. Personal experience as a source was often referred to in situations with an ethical dimension, where communication or the establishment of trust was in focus. It was a source - they said – that had been gained and developed independently of educational and professional experience and legitimised by the fact that it was part of their personality. The professional experience was, however, acquired through their education and sparse professional experience. When professional experience was referred to, it was often legitimised by 'having worked in previous, similar situations', 'we usually do' or as being part of an accepted routine in the ward. The newly graduated nurses referred to the sources, but did not seem to be aware of the impact these knowledge sources had on their clinical decisions.

'Gut Feeling' as a Knowledge Source

Gut feeling was a seemingly undefinable, but legitimate source of knowledge, initially referred to as an integrated source and often used when describing complex situations of patient care. It was a non-analytical form of reasoning which initially was difficult for the newly graduated nurses to articulate and explain. However, when asked to reflect further on the origin of the gut feeling, the nurses often described the feeling using elements of knowledge sources from 'others' and 'oneself'. The lack of reflection and articulation regarding the base of this source often inhibited the newly graduated nurses from justifying their decisions, and quite often they were overruled by colleagues with another opinion.

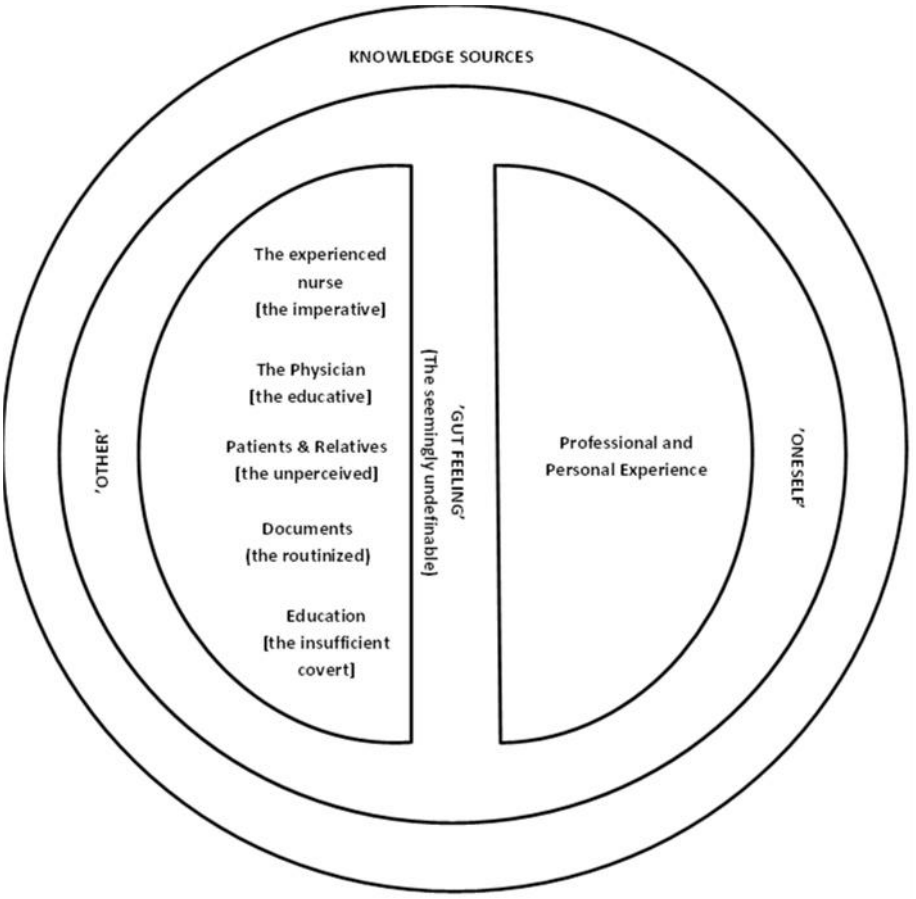

Figure 3: Mapping of newly graduated nurses' use of knowledge sources

4.2.2. SUMMARY OF FINDINGS FROM PAPER III

The aim of the third paper based on study 2 was to explore and describe how socialisation influences the use of knowledge sources among Danish, newly graduated nurses. 'Striving for acknowledgement' and 'Unintentionally suppressed inquiry' were derived from the analysis as the two main themes. The two themes were interconnected and influenced one another.

Striving for Acknowledgment

The newly graduated nurses' transition from nurse education to clinical practice was challenging and left them feeling inadequate, insecure and not ready to assume the role as a nurse. Their feeling of inadequacy made them seek comfort by striving for acknowledgment among nurse colleagues.

The newly graduated nurses' sense of inadequacy derived from a perception of not being able to live up to their own ideals about holistic and individualised patient-centred care, a feeling of not being educationally prepared to care for the patients and a perception of expectations from fellow colleagues and leaders which they were not able to meet. The discrepancies between what they thought nursing was about and what they perceived was required from them left them with a feeling of inadequacy and insecurity - and thus looking for comfort. Comfort was sought by being acknowledged and accepted by nurse colleagues and through attaining independence. They felt they had to prove their worth as nurses and contribute fully to the daily work routines in order to be accepted as part of the nursing team. They were reluctant to ask questions as this might expose their uncertainty and thereby question their ability to contribute to the work environment. It was their perception that asking questions was seen as a sign of insecurity rather than independence. Comfort was also sought by attaining independence, primarily by learning the routines and existing procedures of the ward. They attained a feeling of independence by being able 'to do' without having to seek advice. A lack of attention and acknowledgement by fellow colleagues of the newly graduated nurses' own knowledge and skills reinforced their feeling of inadequacy and the perception of not being prepared to care for the patients or competent to question established practices.

Unintentionally Suppressed Inquiry

The newly graduated nurses' feeling of inadequacy and seeking comfort by striving for acknowledgment influenced their questioning of own and others' practice and led them to use experienced nurses as a predominant source of knowledge when in doubt about nursing care. Being socialised into the team of nurses included asking the experienced nurses for advice even though the information in some instances could have been sought in other, evidentiary stronger sources. Questions primarily evolved around procedures and routines of care and seldom around situations of communication or the establishment of trust with patients and relatives. Questions were influenced and guided by the newly graduated nurses' focus on routines and their limited knowledge of the highly specialised units they were working within. Their need to be accepted as part of the team meant that they had to follow established procedures and routines which often did not include questioning practice. When they did question practice, the questions were mainly answered giving a solution as to *how* to handle the situation, rarely followed by an explanation of *why*. The newly graduated nurses were seldom asked what they thought would be best to do, although when the nurses were eventually asked about their opinion it gave them a boost of confidence. For the newly graduated nurses to question practice and seek advice, they usually had to be confronted by something unknown, something unexpected or something they felt uncertain about. Nursing care which did not provoke unexpected reactions from patients, relatives or colleagues was seldom questioned.

4.3. SYNTHESIS OF FINDINGS

Based on two qualitative studies, this thesis has described the knowledge sources used by newly graduated nurses in clinical decision making. Study 1 and study 2 show that newly graduated nurses use a variety of knowledge sources when making clinical decisions. Despite the contextual differences between the included studies of the meta-ethnography and the ethnographic study of Danish, newly graduated nurses, there are similarities in their use of knowledge sources. There was an evolvement in the description of themes from study 1 - where the main theme was 'oneself and others as a knowledge source' - to study 2, where the findings were described within three separate main themes: 'other', 'oneself' and 'gut feeling'. The two studies supplement one another in elucidating which knowledge sources are used and why they are used, partly because of different methodological approaches. The studies forming the base of study 1 - the meta-ethnography - were mainly interviews, describing the newly graduated nurses' own understanding and perception, whereas study 2 was based on observation and interviewing of the newly graduated nurses, thus constructing a description of both an emic and etic view on the use of knowledge sources. This enabled the capturing of how human interactions and context influence the use of knowledge sources.

By relating and synthesising the findings from the two studies described in the three papers (displayed in Table 6), the following themes influencing newly graduated nurses' use of knowledge sources evolved: Education-clinical Practice Gap, Role Models, Articulation of Knowledge Sources and Culture of Inquiry. The themes are displayed in Figure 3 and described in the following.

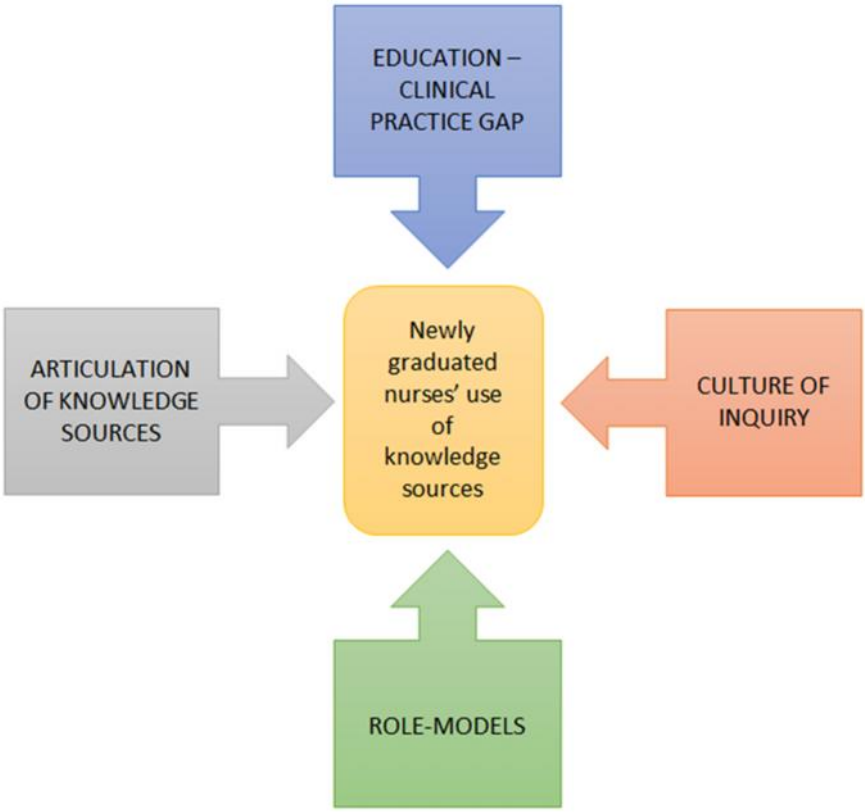

Figure 4: Influencing factors on the conscious and reflective use of knowledge sources

Education-Clinical Practice Gap

Both studies underline that the transition from education to clinical practice influences the newly graduated nurses' use of knowledge sources. The nurses entered clinical practice with a feeling of being inadequately prepared from nursing education. What they had been taught during nursing education was not reflected in clinical practice, and they felt inadequate and not competent for the job. They were overwhelmed by the responsibilities given to them, affecting their feeling of confidence and preparedness to perform the tasks required - and ultimately their capacity for critical reflection. The new graduates' limited confidence in themselves as nurses and their insecurity made them - rather uncritically - turn towards the experienced nurse as a primary knowledge source, with primary focus on procedures and task-oriented care. They perceived high expectations from fellow colleagues and ward managers and were uncertain if they could meet them. Study 1 highlights that the ability to look beyond procedures and tasks and include patients in decisions

came after the first six months in clinical practice. It also underlines that theory from the nursing education slowly became relevant to clinical practice when they had surplus energy to start reflecting. This progression was not noted in the second study, but this may be due to the inclusion criteria where nurses had to have a minimum of six months of clinical practice. Findings from the ethnographic study supplemented the findings from the meta-ethnography in highlighting that apart from feeling inadequately prepared, they also had limited knowledge of the medical specialty they worked within, knowledge that exceeded the basic nursing education. Their limited knowledge made them dependent on more experienced colleagues as knowledge sources and limited them in questioning their own practice. The newly graduated nurses' critical approach to own practice was restricted by a perception of being inadequately prepared from nursing education which resulted in a limited amount questions and a restricted use of knowledge sources.

Role Models

Both studies stress the central role of the experienced nurse in the newly graduated nurses' use of knowledge sources. The newly graduated nurses are dependent on their experienced colleague as a primary knowledge source due to limited knowledge and insight into the specialties within which they work. Furthermore, the ethnographic study accentuated that another reason for the new graduates to primarily seek out the experienced nurse as a knowledge source was the need to be socialised into the group of colleagues. A, socialisation process where they were reluctant to question established practices and to display their lack of knowledge by looking for other sources of knowledge such as clinical guidelines. Their experienced colleagues assumed a position of role modelling and thereby indirectly influenced the knowledge sources which newly graduated nurses sought in clinical decision making.

Articulation of Knowledge Sources

The articulation or lack of articulation of knowledge sources and how this influenced the reflective use of a variety of knowledge sources became clear in study 2. The combination of observations and interviews allowed for exploration of a possible difference between what was observed as being used and what was articulated. Through observations it came out that propositional and non–propositional knowledge sources were used actively in clinical decisions. However, when interviewed they were seldom articulated as knowledge sources. Patients were observed as being used as knowledge sources, but were not articulated as a knowledge source. This resulted in a non-analytical and non-reflective use of patients as a central knowledge source in clinical decisions. The use of clinical guidelines was another source, which was observed, but rarely consciously used and referred to as a knowledge source. The newly graduated nurses had difficulties in referring to theoretical knowledge from nursing education and thus rarely challenged

the evidentiary strength of theoretical knowledge. Knowledge sources drawn on in often very complex situations of care were referred to as 'a gut feeling'. The lack of articulation of the sources underpinning 'gut feeling' prevented the nurses from reasoning and justifying their actions when challenged by a colleague who thought differently. The lack of articulation of some sources of knowledge led to a lack of awareness of the conscious and reflective use of the knowledge source.

Culture of Inquiry

Culture of inquiry turned out to be central to this thesis. Study 1 highlights limited questioning and critical reflection on clinical practice among the newly graduated nurses. In their transition from education to clinical practice, they felt unprepared, overwhelmed and uncertain. Their feeling of helplessness and insecurity made them – rather uncritically – seek out experienced nurses for advice. The newly graduated nurses' limited inquiry and reflection are supported by study 2. Study 2 accentuates that the nurses' limited knowledge of the medical specialties within which they work hindered them in questioning practice. Furthermore, their primary focus on procedures and tasks limited their questioning of these, leaving out questions and reflections on communication and the establishment of trust with patients. In an attempt to be socialised into the group of colleagues, they followed the guidance and working routines of more experienced nurses. If the experienced nurses did not reflect a questioning approach to own practice it was not mirrored in the newly graduated nurse. Furthermore, study 2 underlined that questions were primarily posed as a result of the unexpected, or if the information received contradicted what they thought correct. The limited inquiry and critical reflection was evident in both studies and indirectly influenced the reflective use of a variety of knowledge sources.

The synthesis of findings underlines that when trying to understand why newly graduated nurses use components within EBP and research evidence to a limited extent, the answers can be found in the newly graduated nurses' experience of a theory-practice gap between education and clinical practice. Due to their perception of being inadequately prepared for clinical practice from nurse education and experiencing an overwhelming responsibility which they do not feel prepared for, they find themselves highly dependent on experienced colleagues as predominant knowledge source. The experienced colleague is perceived as a role model and indirectly influences the newly graduated nurses' inquiring approach and thus the reflective and articulate use of knowledge sources.

Table 6 Display of synthesis of findings leading to new themes

	Findings	**Theme**
Paper I	The newly graduated nurses had a perception of being inadequately prepared from nursing school and thus having inadequate knowledge to care for the patients. They were overwhelmed by the responsibility they were faced with and experienced a dichotomy between what they had been taught and the practice they encountered.	Education – Clinical practice Gap
Paper II	The newly graduates sparse knowledge on the medical specialty, initially limited their ability to question the physicians as knowledge source, but as they became familiar with routines and the patients they gained confidence to challenge the physicians guidance and decisions. A lack of knowledge on the specialty hindered relevant observation and thus incorporating the patient in decisions. Due to its educational origin it was seen as a legitimate source, however there was a general perception among the newly graduated nurses that nurse education had failed to prepare them sufficiently for clinical practice. Theories taught often did not mirror the real life of clinical practice and created more confusion than good.	
Paper III	The newly graduated nurses sense of inadequacy derived from a perception of not being able to live up to their own ideals about holistic and individualized patient centered care, a feeling of not being educationally prepared to care for the patients and a perception of expectations from fellow colleagues and leadership they could not meet.	

	Findings	Theme
Paper I	The first few months the newly graduated nurses were in a state of wonder and awe about the experienced nurses knowledge and skills and their willingness to welcome them into the team of nurses. They followed the experienced nurses' doings uncritically and without questioning.	Role model
Paper II	The experienced nurse was regarded as a legitimate source due to her professional experience and was often used as an unofficial mentor or 'sounding-board'.	
Paper III	The newly graduated nurses feeling of inadequacy and seeking comfort through striving for acknowledgment influenced their questioning of own and others practice and lead them to use the experienced nurse as predominant source of knowledge when in doubt about nursing care. Being socialized into the team of nurses included asking the experienced nurses for advice even though information in some instances could have been sought in other evidentiary stronger sources.	

	Findings	Theme
Paper I		Articulation of Knowledge Sources
Paper II	The newly graduated nurses were observed drawing on patients and relatives as knowledge sources informing their clinical decisions, however when interviewed they did not refer to them as knowledge sources Other nurses were observed giving care based on guideline recommendations, however when asked to describe these situations at the following interviews they were not aware of the use. They rather referred to the situations as tasks they had once learned by an experienced nurse. The newly graduated nurses found it challenging to define and articulate knowledge derived from nursing education. 'Oneself' was a source of knowledge integrated within the newly graduated nurse derived from personal and professional experience. A source	

	initially difficult to articulate and required reflection and consideration. Gut-feeling was a seemingly undefinable but legitimate source of knowledge, initially referred to as an integrated source and often used when describing complex situations of patient care. It was a non-analytical form of reasoning which initially was difficult for the newly graduated nurses to articulate and explain. The lack of reflection and articulation of the base of this source (gut-feeling) often inhibited the newly graduated nurses in justifying their decisions and were not seldom overruled by colleagues with another opinion.	
Paper III		

	Findings	**Theme**
Paper I	Their perception of being inadequately prepared was reinforced by colleagues lack of support for critical reflection using the theoretical and practical knowledge they had acquired. This left the nurses prone to just follow rather than being critical questioning practitioners.	
Paper II	The newly graduated nurses were only critical and questioned the experienced nurses advice when the advice given contradicted their own idea of what had to be done. When asked for advice the experienced nurse responded by telling the nurse what to do, rather than encouraging the nurse to reflect and eventually seek other relevant sources of knowledge. Being told what to do and how confirmed the newly graduated nurses in their perception of not being knowledgeable enough to care for the patients. The newly graduated nurses expressed a concern that using guidelines would display their uncertainty and lack of knowledge.	Culture of Inquiry

Paper III	They were reluctant to ask questions as this could expose their uncertainty and thereby question their ability to contribute to the work environment. They perceived that asking questions was seen as a sign of insecurity rather than independency. A lack of attention and acknowledgement from fellow colleagues of the newly graduated nurses own knowledge and skills reinforced their feeling of inadequacy and perception of not being prepared to care for the patients and competent to question established practices. Questions primarily evolved around procedures and routines of care, and seldom around situations of communication and the establishment of trust with patient and relatives. Their need to be accepted as part of the team meant that they had to follow established procedures and routines, which often did not include questioning practice.For the newly graduated nurses to question practice and seek advice they had to be confronted by something unknown, something unexpected or they felt uncertain about what to do. Nursing care which did not provoke unexpected reactions from patients, relatives or colleagues was seldom questioned.	

CHAPTER 5. DISCUSSION

In this section, the synthesised findings from study 1 and study 2 are discussed in the light of the overall aim of the thesis and in the context of previous research. Rigour and limitations of research process, design and methods chosen are subsequently reflected upon.

5.1. DISCUSSION OF FINDINGS

The overall aim of this thesis was to explore which knowledge sources newly graduated nurses use in their clinical decision making and the reasons *why* they use them, in order to understand why newly graduated nurses only use research and components within evidence-based practice to a limited extent. According to the synthesised findings from this thesis, the conscious and reflective use of knowledge sources is influenced by the following: Education-Clinical Practice Gap, Role Models, Articulation of Knowledge Sources and Culture of Inquiry. Contextual and individual influences impact the newly graduated nurses' use of research knowledge and their use of components within EBP.

5.1.1. EDUCATION–CLINICAL PRACTICE GAP

The findings of this thesis underline that when comparing the social context of education to the social context of clinical practice, the knowledge sources needed for clinical decision making were perceived, articulated and used differently. The discrepancies between what had been taught during nursing education and what the newly graduated nurses experienced as required from them reinforced their perception of an educational-clinical practice gap. This was confusing for the newly graduated nurses and left them vulnerable and with a feeling of low confidence in themselves as nurses. As previously described, the transition from nursing education to clinical practice is often associated with a theory-practice gap, i.e. the gap between idealism as taught during nursing education and the reality of clinical practice (Whitehead 2001; Pellico et al. 2009). Studies have reported that the new nurses are left confused and with a low confidence which leaves them feeling inadequate and not competent for the job (Wangensteen et al. 2008; Duchscher 2009; Higgins et al. 2010). In this thesis, the newly graduated nurses perceive it as if they were not able to live up to the expectancies of the ward, a perception which is reinforced by the new graduates' impression that the more experienced nurses expected more with respect to their skills and competencies. A literature review highlighted that insufficient, clinical skills are an influencing factor in newly graduated nurses' perception of the theory-practice gap (Monaghan 2015). This notion is also supported by a recent, systematic review of more experienced nurses' perception of newly graduated nurses' competencies, where the areas of concern

expressed were the newly graduated nurses' clinical/technical skills, critical thinking, interaction/communication and overall readiness for practice (Missen et al. 2016). In this thesis, the newly graduated nurses experienced a practice where the primary focus was on 'doing' rather than the analytical and reflective use of knowledge sources in decision making as taught in the educational context. Task completion was prioritised over critical thinking. With a primary focus on 'doing', the newly graduated nurses adhered to routines, procedures and tasks which were not questioned. Developing routines is both inevitable and a necessity in clinical practice with time constraints. It frees up time for other tasks (Eraut and Hirsh 2007). However, as routines over time become tacit, the reasoning behind the routines fades, and if a revision is not questioned or considered, it may reduce the quality of care. The concern regarding limited or lack of clinical skills may be a result of a distinction within nursing between 'know that' and 'know how', where the 'know how' - often ascribed to the expert nurse - seems to have a higher status than the 'know that'.

With reference to Kuhn and Polanyi, Patricia Benner describes the difference between 'know that' and 'know how'. 'Know that' uses theory to explain and predict events, whereas 'know how' are skills attained without necessarily a 'know that' and often not theoretically explainable (Benner 2001). Benner linked the 'know that' and 'know how' to the description of and distinction between the expert nurse and the competent or proficient nurse. The expert nurse uses a 'know how', acclaimed through clinical experience where decisions are based on grasps of situations as a whole. The competent or proficient nurse 'relies on conscious, deliberate, analytical problem solving' (Benner 2011, p. 3), basing the decisions on 'know that' rather than 'know how'. Newly graduated nurses would be defined as advanced beginners moving towards the competent nurse. In this thesis, the newly graduated nurses did not make decisions based on conscious, deliberate, analytical problem solving. They often moved to 'doing', without conscious, critical thinking. 'Doing' was demonstrated by acquiring clinical skills in learning procedures and tasks from the more experienced nurses. Often, the teaching of procedures was not accompanied by critical reflection on and reasoning regarding the tasks. The 'know that' failed to appear due to time restrictions and lack of support in questioning and reflecting on clinical practice. In this thesis, a glorification of 'know how' seemed to undermine the analytical, reflective process envisaged by EBP. There was focus on 'doing' rather than reflection, questions were not posed and components within EBP not challenged. As indicated in a study by Wallin et al. (2012), the transitional phase from education to clinical practice influences the newly graduated nurses' use of research in clinical decision making. In this thesis, the newly graduated nurses' feelings of being inadequately prepared from nursing education and a need to conform to the ward culture by adopting existing practices kept them from questioning their own and others' practice and from seeking alternate sources of knowledge, other than the experienced nurse. Today's healthcare system requires independent nurses who enter into a lifelong learning process and who question own

and others' practice. It might be considered if the ability to question and reflect on clinical practice should be welcomed in the same way as managing clinical skills. Nurses should strive for an equal focus on 'know that' and a 'know how'.

5.1.2. ROLE MODELS

The experienced nurse plays a central role as the predominant knowledge source used by newly graduated nurses. As previously reported by Pennbrant et al. (2013), the newly graduated nurses are also in this thesis dependent on co-workers due to lack of clinical experience and knowledge within the specialty where they work. The experienced nurse becomes a role model and directly and indirectly influences the new graduates' use of knowledge sources through his/her clinical practice. According to Albert Bandura's Social Learning Theory, people learn by experiencing and observing the behaviour of others (Bandura 1971). The newly graduated nurses imitate and model the behaviour of the more experienced nurses. In this thesis, the expectancies to the newly graduated nurses' contribution to the workload were high, and as they lacked knowledge and clinical skills - which had to be learnt 'on the run' - they sought the experienced nurse out for advice. The influence of role models on the implementation of evidence-based practice has previously been reported by Ferguson and Day (2007). The role models influence the newly graduated nurses' inquiring approach and use of knowledge sources by their response to the new graduates' questions and by modelling a behaviour which either supports or refutes a practice built on evidence-based practice. In this thesis, questions posed to the experienced nurses often concerned routines, procedures and task-oriented care. When they were given advice on what to do rather than opening up for reflective questions or questions on other central aspects of nursing care, the newly graduated nurses were indirectly restricted in their use of knowledge sources. In a busy and highly complex environment – as most hospital wards are - approaching a colleague for advice and reflection is natural and essential to ensure quality care. However, in a frame of evidence-based practice it is important to critically consider the validity of the knowledge source and the type of information which is sought through the experienced nurses. The experienced nurses may very well convey valid sources of knowledge (Profetto-McGrath et al. 2007), but it has to be transparent where their advice comes from.

Preceptorship eases the transition from nurse education to clinical practice (Higgins 2010). However, it is important that the instructor models an evidence-based practice by explicit and reflective use of a variety of knowledge sources. Furthermore, experienced nurses need to encourage newly graduated nurses to question clinical practice and use the knowledge and skills within EBP which they have acquired through nursing education. In this thesis, there was limited acknowledgment of the newly graduated nurses' possible contribution to an

evidence-based practice. It might be relevant to consider forms of collaboration /companionship/partnership which could highlight, support and reinforce the knowledge and skills which both experienced and newly graduated nurses bring to a clinical situation. Hoare et al. (2013) conducted a study on reciprocal role modelling between a newly graduated nurse and a more experienced nurse. The aim was for the experienced nurse to model clinical skills and for the newly graduated nurse to model how to source scientific information. The study resulted in more competent practitioners on both sides who mutually acknowledged that they both could contribute with essential skills and thus ensure quality care. A reciprocal role modelling might be a welcome initiative in the implementation of EBP where newly graduated nurses, experienced nurses and patients could all benefit.

Leadership and management have not been the focus of this study. It is, however, well documented that lack of leadership support for evidence-based practice, lack of academic education and limited knowledge of evidence-based practice among leaders have - together with a lack of resources - been identified as barriers for the implementation of evidence-based practice (Meijers et al. 2006; Squires et al. 2014). It has previously been reported by Aasekjær et al. (2016) that management support is important even though newly graduated nurses enter practice with knowledge and skills within evidence-based practice. Having basic knowledge and skills within evidence-based practice does not equal to an evidence-based practice (Ramis et al. 2015). For newly graduated nurses to put their knowledge and skills to use, evidence-based practice has to be reflected through role models such as more experienced nurses and management. Furthermore, the excessive demands on newly graduated nurses and limited practical and theoretical knowledge make professional development difficult (Pennbrant et al. 2013). It is thus important that nurse managers are realistic about what to expect from the newly graduated nurses and accept that they have to be greeted as beginners with a need for support (Pennbrant et al. 2013). This support must take into consideration how the newly graduated nurses' skills within EBP can be put to use in a clinical setting.

5.1.3. ARTICULATION OF KNOWLEDGE SOURCES

This thesis underlines that there are central sources of knowledge regarding evidence-based practice that are seldom articulated and therefore not used analytically and reflectively in clinical decisions. Evidence-based practice requires articulation and conscious use of several knowledge sources. It calls for an analytical rather than an intuitive approach, without overruling the importance of intuition in decision making (Rycroft-Malone et al. 2004). Nursing is dependent on a 'know that' and a 'know how', also referred to as propositional and non-propositional knowledge (Benner 2001; Rycroft-Malone et al. 2004). The importance of articulating both forms of knowledge in evidence-based practice has

previously been put forward by Rycroft-Malone et al. (2004). This thesis has shown that newly graduated nurses use both propositional and non-propositional knowledge sources. In a context of EBP it is, however, interesting what is perceived and articulated as a knowledge source, because it is primarily the articulated sources of knowledge that can be subjected to scrutiny and reflected upon. In this thesis, several sources of knowledge were observed as being used in clinical decision making, however, not articulated as such when interviewed. In a healthcare context, where there has been great attention nationally and internationally on patient-centred care, it was thought-provoking to observe and hear how patients were actively drawn on in clinical decisions, but not articulated and perceived as a central source of knowledge. This implies that having patient-centred care as an objective does not by definition mean that patients are considered and articulated as central sources of knowledge. Patient preferences and experiences are central to evidence-based decision making (Sigma Theta Tau International 2008). Patients should be seen as the starting point for all decisions made. The limited awareness of patients as a knowledge source may influence if and how patients are reflectively incorporated into clinical decisions. This may be a reason for the reported mismatch between initiatives concerning patient-centred care and patient experiences (Kitson et al. 2013). The lack of articulation of patients as a knowledge source may result in less reflection on the establishment of a relationship and interaction with the patients which ought to form the base of nursing care (Kitson et al. 2013). The limited articulation of patients as a knowledge source in this thesis calls for consideration of the patient role in clinical decisions and how patients should be incorporated in decisions.

In this thesis, the use of clinical guidelines was a source of knowledge which was observed used, but often not referred to in subsequent interviews. The care or tasks observed which reflected recommendations from guidelines often turned out to be performed based on what the newly graduated nurses had been trained to do by more experienced nurses. Studies on newly graduated nurses' use of research, which are based on self-report studies, show that the use of research is limited (Forsman et al. 2010; Rudman et al. 2012; Wallin et al. 2012). This thesis shows that they do provide nursing care based on recommendations from clinical guidelines, however, the lack of conscious use of clinical guidelines and lack of articulation kept them from being critical and reflective towards the rationale behind their actions. Those newly graduated nurses who did reflectively refer to clinical guidelines as a knowledge source worked in a ward culture where clinical guidelines and the reflective use of guidelines were part of the daily discourse among fellow colleagues. This insinuates that what is articulated within the culture of the ward influences what is perceived as relevant sources of knowledge in decision making.

The description of the theme 'gut feeling' from study 2 is a good example of the need for a more inquiring practice, challenging the articulation of sources seldom used or difficult to articulate. 'Gut feeling' turned out to be based on cues that to a

certain extent could be articulated. The sources were difficult to articulate because the newly graduated nurses rarely questioned the situations where 'gut feeling' was used, and they were therefore not accustomed to articulating the knowledge base of these often complex situations of care. The newly graduated nurses lacked words and training in articulating and reflecting on these situations. It seemed easier to say 'it's my gut feeling'. Within nursing it is widely acknowledged that decisions are partly based on intuition, a non-propositional form of knowledge which some would argue is impossible to articulate (Benner 2001; Fonteyn and Ritter 2008). In this study, 'gut feeling' was referred to as a source of knowledge that was perceived as an accepted and legitimate source of knowledge to draw on. However - as underlined by this study - it may be relevant to consider what is put under the 'intuitive umbrella'. Could some of the intuition and 'gut feeling' be articulated and put up for scrutiny by questioning situations where intuition and 'gut feeling' are used? In implementing and nurturing a practice based on evidence-based practice there is a need to consider which sources of knowledge need to be articulated in order to bring a variety of knowledge sources into play in evidence-based practice decisions.

5.1.4. CULTURE OF INQUIRY

The findings from this thesis accentuate the important connection between questioning practice, critical reflection and evidence-based practice stemming from a variety of knowledge sources. The spirit of inquiry is limited in this thesis and seems to be one of the reasons behind the limited, consciously reflective use of a variety of knowledge sources. Questions necessary to ignite reflection on own and others' practice seemed to be restricted to routines, procedures and tasks, and the predominant knowledge source sought out was the experienced nurse. It has been argued that newly graduated nurses' limited questioning and reflection on clinical practice are due to a lack of clinical experience and stress which limits their critical reflection (Ferguson and Day 2007; Wallin et al. 2012). Critical thinking, including questioning practice, is a significant predictor for the use of research evidence among newly graduated nurses (Wangensteen et al. 2011) and is imperative in order to develop clinical practice and ensure the best possible care (Higgs and Jones 2008). As described by Melnyk et al. (2014), there are seven steps in the evidence-based practice process, starting with a cultivation of the spirit of inquiry (Melnyk et al. 2014), fostering a culture of inquiry where nurses routinely question own and others' clinical practice. The limited culture of inquiry in this thesis may be one reason why newly graduated nurses seldom formulated clinical questions and ultimately a reason for their limited use of research evidence in clinical practice - as also reported in other recent studies on newly graduated nurses (Forsman et al. 2011; Rudman et al. 2012).

Rudman et al.'s (2012) five-year longitudinal study of newly graduated nurses' evidence-based practice shows that there is minimal change with respect to the extent to which the new nurses practise different components of EBP over a five-year period. This insinuates that the newly graduated nurses' limited use of components within EBP (Forsman 2010; Rudman et al. 2012; Wallin et al. 2012) may not just be due to the newly graduated nurses' difficulties with transition into clinical practice. Studies show that experienced as well as newly graduated nurses have difficulties formulating questions and searching and appraising evidence (Melnyk et al. 2008; Brown et al. 2009; Rudman et al. 2012). The limited questioning and reflection have been explained by heavy workloads with limited time for reflection (Pennbrant et al. 2013) and by a working culture where the completion of tasks is prioritised over reflection on practice and searching for evidence (Thompson et al. 2008). This thesis underlines that neglecting to question routines, tasks and care given to the patients has consequences as to the range of knowledge sources sought out and used reflectively in clinical decision making. Ultimately, this may lead to decisions where the best possible evidence is not used, leading to insufficient or even harmful care.

In this thesis, the newly graduated nurses questioned practice when they were uncertain how to handle a situation. It would not be expected or possible for nurses to question every decision made. However, this thesis implies that if only instances of uncertainty and situations that developed in an unexpected manner are questioned and reflected upon, there are decisions regarding nursing care that will never be subjected to scrutiny, and where it is not considered if the approach might have been different if other and more relevant sources of knowledge had been used. A limited culture of inquiry influences the newly graduated nurses' critical reflection. Questions were limited and one-sided and mainly concerned daily routines and tasks. The non-propositional and other seldom articulated knowledge sources were rarely questioned, articulated and reflected upon.

5.2. REFLECTIONS ON RESEARCH PROCESS, DESIGN AND METHODS

In the following, research process, design and methods will be reflected upon.

5.2.1. META-ETHNOGRAPHY

Meta-ethnography was chosen among other synthesising methods following the initial literature search. The studies found varied in philosophical and methodological approaches and were conducted in diverse cultures and contexts. It was therefore a prerequisite that the synthesising took a systematic approach to the interpretation of the findings of the studies. Meta-ethnography is a rigorous

approach with the prospect of new interpretations which go beyond the individual studies included in the review (Campbell et al. 2011). Synthesising studies with different philosophical approaches has been questioned (Finfgeld 2003). However, in this study there were strong similarities among the newly graduated nurses' statements in spite of contextual differences and philosophical variations. The multiple approaches strengthened the value of the results (Finfgeld 2003).

A limitation to meta-ethnography is the lack of Asian, South American and African studies. No studies from these continents were located in the structured literature search and thus not included. An inclusion of studies from these continents with their cultural and contextual differences could have enriched the study and highlighted other perspectives.

Meta-ethnography is the synthesis of interpretations of already interpreted data (Toye et al. 2014). The interpretations in meta-ethnography are therefore removed from primary data several times. However, the systematic process of analysis of meta-ethnography encourages the preservation of context and the meaning of primary studies by carefully maintaining central concepts and descriptions of primary studies. This has been attempted in this study.

5.2.2. ETHNOGRAPHIC STUDY

Ethnographic Approach

Results from the meta-ethnography underlined the contextual influences on the newly graduated nurses' use of knowledge sources. Ethnography was therefore chosen as methodology to enable an exploration and description of how clinical setting and interaction among healthcare professionals influence the newly graduated nurses' use of knowledge sources.

The social and contextual influences on the use of knowledge sources in clinical decision making in this study proved to be substantial, underling the relevance of using ethnography to explore and describe the use of knowledge sources. The semi-structured interviews and observations provided insight into the discourse around knowledge sources from the informants' perspective and the clinical setting. The ethnographic approach enabled a research process that unfolded in interaction between the researcher and the informants, resulting in an interpretive story based on construction of understandings of the phenomenon (LeCompte and Schensul 2010).

Sampling

The informants were purposefully sampled, and it was optional for newly graduated nurses to sign up for the study. This may have resulted in only nurses with a surplus of capacity signing up to participate, and the study may thus not necessarily be representative of *all* Danish, newly graduated nurses. However, a comparison of the findings with previous research in the field of newly graduated nurses and evidence-based practice shows that their behaviour does not deviate significantly from other newly graduated nurses. Moreover, to gain their trust and get access to their understanding of clinical practice, the researcher depended on informants who had signed up freely and agreed to be followed, observed and questioned for several shifts.

The informants were from the same university hospital and educated from the same school of nursing. As this study underlines, context influences the knowledge sources used and how they are used. It might be interesting to explore newly graduated nurses educated from another school of nursing and/or newly graduated nurses within another hospital setting.

Data Saturation

Recurrence of initial categories and patterns emerged following the first six informants, indicating data saturation (Bazeley 2013). Data collection and analyses from the following three informants were used to contest, deepen and refine the initial patterns and categories. As the data supported the pattern construction and no contradictory data emerged after the analysis of data from the eighth informant, no further informants were included in the study (LeCompte and Schensul 2010).

Researcher as a Tool

Being a nurse and nurse educator, the researcher may have reinforced a social desirability among the informants to present themselves in a favourable light rather than how they usually are (McCambridge et al. 2014). It is uncertain which effect and consequences an awareness of being studied as a participant has on behaviour and eventually on the data collected (McCambridge et al. 2014). However, possible, social desirability was addressed by observing the informants for several hours over several shifts and by small talking and maintaining a friendly tone with the informants to ease the relationship.

A balance had to be found between engaging in situations and keeping a distance in order not to let subjective feelings guide observations (Gerrish 2003). The balancing act of entering practice as a researcher, a nurse and a fellow human being was challenged in a few situations where unsafe practice with the potential of harming the patient was observed. The informants had initially been informed that the focus

of observations was *what* they did and *why*, not to judge if it was right or wrong. This complied with the aim of the study and was underlined in order to gain access to the field. However, it was a challenge *how* and *when* to intervene when unsafe practice was observed. Retrospectively, the researcher should have informed the informants of the researcher's responsibility to the patients, and consensus should have been reached on how the researcher could intervene in situations of unsafe practice (Fontana and Frey 1994).

Ethics

Informed consent was obtained from the informants. It was considered if other healthcare staff, patients and relatives whom the informants interacted with should also have signed an informed consent. However, as the focus of the study was the newly graduated nurses and their saying and doing, other healthcare workers were merely introduced to the researcher and informed of the focus of study. Patients were informed prior to the researcher entering the patient room. To maintain the integrity of the patients, it was important that they agreed to the researcher being present.

While observing, the researcher stayed in the background, but sufficiently close to hear and observe the informant, without appearing suspicious. In a few instances, the researcher chose not to enter the patient room and withdrew from the situation due to the vulnerability of the patients or to preserve the integrity and discretion of the patients.

5.2.3. TRUSTWORTHINESS

Different methodological strategies have been used to ensure the trustworthiness of the findings. The strategies are discussed within the scientific criteria of *credibility*, *transferability*, *dependability*, *confirmability* and *utilization* (Lincoln & Guba 1985; Miles et al.2014).

Credibility addresses the true value of the findings (Miles et al. 2014). To achieve a rich and comprehensive understanding of the knowledge sources used in clinical decision making, different types of triangulation were used (Patton 1999). In study 1, systematic sampling was carried out by two researchers who used a variety of search strategies and sources. The selected studies were subsequently read, appraised and discussed by four members of the team which consisted of experienced, qualitative researchers within nursing. To enrich the synthesis, two members of the team translated and synthesised the selected studies. In study 2, different forms of triangulation were used. Methods triangulation was used by collecting data through observations and interviews to elucidate different aspects of

the phenomenon under study (Patton 1999). Triangulation of sources was used to explore the consistency of data by interviewing and observing nine informants in eight different settings. To elaborate on alternate understandings and interpretations of data, analyst triangulation was used to discuss the process of analysis and interpretation with fellow researchers (Patton 1999). The informants' perspectives were validated by recapturing and summarising their answers at the end of each interview, allowing them to elaborate on the matter or correct possible misunderstandings. Statements from interviews were compared with observations and data from across settings, paying attention to supportive and/or refutation statements (Bazeley 2013). Findings were validated through presentation at conferences and seminars where clinical nurses and newly graduated nurses responded to the findings (Miles et al. 2014).

Transferability is about the ability to transfer findings to other times, settings, situations and people. The findings of this thesis represent a construction between researcher and informant. Data gathering and interpretation were based on a moment in time in a specific setting and tied to context, researcher and informant. To address this issue, sample setting and process have been described for the two studies and may help indicate if the findings are relevant to other newly graduated nurses with a similar educational background and in similar clinical contexts. As the findings from the two studies support each other and the synthesis of the findings is supported by international literature, it implies that the findings may be transferable.

Dependability is about the consistency of findings and the ability to be repeated. Meta-ethnography and ethnography call for a high degree of interpretation, dependent on the researcher. The findings represent one possible interpretation (Campbell et al. 2011; Noblit and Hare 1989), and the replicability of findings is therefore questionable. However, through structured, transparent and explicit reporting of the process of the two studies and the synthesis of the findings of the two studies, the reader may relate to consistencies as well as inconsistencies of the studies.

Confirmability addresses the issue of *'relative neutrality'* (Lincoln and Guba 1985; Miles et al. 2014). In both studies and the synthesis of findings, the researcher acts as a tool for collection, analysis and interpretation of data, and neutrality is thus not feasible. However, the researcher has continually challenged own assumptions and values by keeping an audit trail, by reflective journaling, by discussions with peers and fellow researchers and by being reflective as to how the researcher may have influenced the process of the studies. Although the researcher is a nurse and lecturer at a school of nursing, the 'etic' view was maintained as the researcher was not working within the clinical setting on a daily basis and therefore not part of or influenced by the clinical context. Being familiar with the clinical setting and having knowledge of the phenomenon studied - partly from study 1, the meta-ethnography - were perceived as a strength rather than a limitation (Morse 2010; Knoblauch 2005).

It enabled the researcher to focus on situations that were relevant to the phenomenon studied without being distracted by an often hectic, eventful and at times emotionally challenging clinical practice setting. Furthermore, it gave the researcher a practical and theoretical foundation for analysing and interpreting data and discussing them in a healthcare context of relevant research and theory, thus obtaining a richer understanding of the complexities of the use of knowledge sources (Gerrish 2003). Entering the field in study 2 as an observer-as-participant gave the researcher the ability to retreat from clinical situations and thus not interact with and possibly influence the informants' behaviour (Kawulich 2005). Furthermore, it was attempted to reduce the 'observer effect' by establishing trust and confidence between the informants and the researcher (LeCompte and Schensul 2010). Following the first observation, the informants were asked how they had perceived being observed and if anything should be done differently on the following days. All informants reported that it felt a little awkward for the first few hours, but after that they did not take much notice of the researcher's presence. Several reported that the only effect of the researcher's presence on their behaviour was that they experienced a greater reflection and consideration as to why they were doing what they were doing. This was seen as an advantage to the study as their reflection helped them articulate and explain their use of knowledge in the following interviews. To the informants the researcher was known as a lecturer at their school of nursing. Thus, there was a risk of taking on the roles as student-teacher, roles that would have been undesirable and would have distorted their natural behaviour. It was therefore decisive at the initial meetings to clarify that in the present situation the informants were the knowledgeable persons and the researcher the one needing to access this knowledge.

Utilisation refers to the relevance and application of the research (Lincoln and Guba 1989; Miles et al. 2014). In expressing the meta-ethnography, the transparency of the process of synthesis has been enhanced by following the ENTREQ statement (Tong et al. 2012). Phases of the synthesis have - although interwoven - been described separately to give the reader clarity of the process. For transparent and structured reporting of the ethnographic study, the COREQ statement was followed (Tong et al. 2007). Findings from both studies have been expressed in a rigorous and comprehensible way and will be made accessible to the relevant audience through well-established scientific nursing journals. Findings have been discussed within a frame of previous research, thus confirming the relevance of the results to clinical practice. New insights have been highlighted, explained and discussed in relation to today's requirements within clinical practice, and clinical implications have been considered (Finfgeld 2010; Campbell et al. 2011).

CHAPTER 6. CONCLUSION

The overall aim of this thesis was to explore why newly graduated nurses only use research and components within evidence-based practice to a limited extent. The findings underline that the newly graduated nurses' experience of a theory-practice gap between education and clinical practice, role models in the form of experienced nurses, inquiring culture and if and how knowledge sources are articulated in the practice setting influence their use of components within EBP, including the use of research knowledge. The findings generated from a qualitative approach supplement and elaborate on previous, quantitative research on factors that facilitate or hinder the use of research and components within EBP among newly graduated nurses. This study may inform interventions as to how newly graduated nurses can be supported in their use of knowledge, skills and competencies within EBP and in applying them in clinical practice to improve nursing care.

To support newly graduated nurses in practicing nursing based on EBP, the following has to be taken into consideration:

The social context of education and the social context of clinical practice display differences in the construction of which knowledge sources underpin clinical decisions. Knowledge sources are perceived, articulated and used differently in the two contexts. Furthermore, the newly graduated nurses experience a primary focus on 'doing' rather than on an analytical and reflective approach to clinical decisions as taught during nursing education. The difference in social construction seems to prevent the newly graduated nurses from being questioning and reflective towards own and others' use of knowledge sources. The different articulation of knowledge sources confuses the newly graduate nurses, leaving them with a feeling of not being prepared for clinical practice. This ultimately has an impact on the newly graduated nurses' use of knowledge sources, including the use of research knowledge.

The newly graduated nurses' perception of being inadequately prepared from nursing education and the need to be socialised into the community of nurses made the newly graduated nurses seek out experienced nurses as the predominant knowledge source. The experienced nurses became role models and through their role modelling influenced a behaviour which either supported or refuted a practice based on EBP. It accentuates the importance of having experienced nurses model an evidence-based practice by explicitly and reflectively using a variety of knowledge sources in clinical decision making.

The culture of inquiry within the clinical practice setting influences the newly graduated nurses' critical reflection. In this thesis, the spirit of inquiry was limited, resulting in a limited, consciously reflective use of a variety of knowledge sources. Questions posed mainly concerned daily routines and tasks, often leaving out the

questioning of and reflection on communication and establishment of trust between nurse and patient. A culture of inquiry seems to be a prerequisite for reflective use of a variety of knowledge sources.

The articulation of knowledge sources within the culture of the ward seems to influence how the sources are used, and if they are used consciously and reflectively. The articulation influences what is perceived as relevant sources of knowledge in clinical decision making. The limited articulation of patients as knowledge sources and limited clarity as to the use of research knowledge in the form of clinical guidelines influenced the conscious and reflective use of these sources. Evidence-based practice requires the explicit and articulate use of a variety of knowledge sources. This thesis calls for an articulated clarity regarding the reflective use of knowledge sources, underpinning decisions made within a frame of EBP. It also underlines a need for greater concurrence on how knowledge sources are articulated and used in nursing education and clinical practice.

CHAPTER 7. PERSPECTIVES

The findings in this thesis underline that educational preparation and newly graduated nurses' socialisation into clinical setting influence the new nurses' use of knowledge sources in clinical decision making. Their limited use of components within EBP and their one-sided use of knowledge sources are therefore not - as previously noted in research studies - just a matter of poor educational preparation (Rudman et al. 2012). It seems to be just as much a matter of how the newly graduated nurses are greeted as new colleagues in the clinical setting. To support the new graduates in using their skills within EBP, action is required by educators within the educational field as well as nurses and nurse leaders within the clinical setting. Nursing education has to reflect clinical practice, among other things by approaching the discourse used in clinical practice. Nurses within clinical settings have to be more aware of and welcome the new graduates' knowledge, skills and competencies in regard to EBP. The thesis calls for a higher degree of collaboration between schools of nursing and future employers within healthcare settings, collaboration with a shared responsibility for bridging educational and clinical settings in order to guide and support the newly graduated nurses through the transitional phase and foster and nurture them in using their skills within EBP.

The thesis calls for a renewed consideration as to when and how educational EBP interventions should be evaluated. The aim of evaluating educational interventions regarding EBP must ultimately be to explore and evaluate if the nurses use the knowledge, skills and competencies they have acquired. At the end of the day, it is in the clinical setting that the nurses' skills and competencies are put into use, and they should therefore be evaluated in clinical practice following graduation. As previous research has underlined, the theoretical provision of EBP knowledge does not necessarily lead to a practice of EBP (Ramis et al. 2015). The evaluation tools have primarily been in the form of self-report studies (Shaneyfelt et al. 2006). This thesis suggests a combination of self-report studies, interviews and field observations to gain nuanced insight into how and why components within EBP are used or not used. A combination of qualitative and quantitative research methods is required.

Within implementation research, there has been an increased interest in exploring contextual influences on healthcare professionals' use of research evidence (Squires et al. 2015). When exploring contextual influences, this thesis underlines the importance of using a variety of research methods to develop and enrich the findings. One of the main findings in this study - the culture of limited inquiry, which has been shown to influence the use of research knowledge - emerged from the observed interaction between the newly graduated nurses and fellow colleagues, combined with analysed interview data. The use of both 'emic' and 'etic' data broadened the understanding of the use of knowledge sources.

Results from this thesis highlight the importance of establishing an inquiring culture within a clinical setting. As Melnyk et al. (2014) stress the first step in the EBP process is creating a culture of inquiry. It would be relevant to explore how a culture of inquiry may be created and maintained within a clinical setting. Based on the results of this thesis, it might be interesting to explore if a simple intervention - such as a friendly visit by an 'outsider' in the form of a nurse from another ward - might initiate questions and reflections and thus reflective use of a variety of knowledge sources.

This thesis was carried out within the interpretive paradigm where created constructs are not fixed, but develop and change over time and/or through interaction and discourse. New constructions may evolve, leading to new ways of understanding and thus new practices and ways of acting (LeCompte and Schensul 2010). Therefore, the limited practice of EBP may be altered by focusing on questioning of own and others' clinical practice and the way in which knowledge sources are articulated, discussed and used within educational and clinical settings.

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APPENDICES

Appendix A Characteristics of included reports in meta-synthesis (Voldbjerg et al. 2016a)

Author	Country	Context	Aim	Data collection and sample	Data analysis
Gerrish (2000)	UK	Medical, surgical wards	Examine newly qualified nurses' perceptions of the transition from student to qualified nurse and to compare to previously qualified nurses	In-depth individual interviews 25 newly graduated nurses Four and ten months of experience	Grounded theory (Glaser and Strauss 1967)
Whitehead (2001)	UK	Not specified	Explore newly qualified staff nurses' perceptions of the role transition from student nurse to qualified staff nurse	In-depth interviews 6 newly qualified staff nurses Average time since graduation 8-9 months	Phenomenology (Colaizzi 1978)
Duchscher (2001)	Canada	Acute care	Explore how newly graduated nurses perceive their first six months as professional nurses	In-depth interviews at two and six months of clinical experience. Individual reflective journaling 5 newly graduated nurses	Phenomenological Analysis: Constant comparative approach
Duchscher (2003)	Canada	Not specified	Explore newly graduated nurses knowledge and thinking development	In-depth interviews at two and six months of clinical experience Individual reflective journaling 5 newly graduated nurses	Combined phenomenological and feminist research. Analysis: Constant comparative approach

Ellerton & Gregor (2003)	Canada	Acute care	Explore the adequacy of preparation for the hospital staff nurse	In-depth interviews 11 nurses, three months following graduation	Interpretive social science
Manias (2004)	Australia	Medical, surgical wards	Explore how graduate nurses use decision-making models in their medication management	Participant observations, interview 12 nurses, eight to ten months of clinical practice	Qualitative approach analyzed within a frame of decision-making models
Clark & Holmes (2007)	UK	Rotation positions	Explore factors that influence development of competence among new graduates	Focus group, individual interviews 10 focus groups with either new graduates or experienced nurses	Content analysis
Etheridge (2007)	USA	Medical, surgical units	Explore the perceptions of how new nursing graduates learn to "think like a nurse"	Semi-structured interviews three times during first year post graduation. Sample number not specified	Descriptive phenomenology
McKenna & Green (2004)	Australia	Not specified	Explore experiences and learning occurring throughout a graduate nurse program	Focus group interviews at 6 and 12 months post-graduation 7 new graduates	Thematic analysis
Newton & McKenna (2007)	Australia	Four healthcare facilities	Examine how graduate nurses develop knowledge and skills	A series of focus group interviews during the first 16-18 months of registration. 7 new graduates	Phenomenology (Colaizzi)

Newton & McKenna (2009)	Australia	Four healthcare facilities	Explore graduates' development of ways of	A series of focus group interviews over 18 months and written anecdotes, 27 new graduate nurses	Thematic analysis using Carper's four
Lien et al. (2010)	Norway	Surgical ward	Explore newly graduated nurses' assessment of patients' postoperative pain	Focus group interviews.12 newly graduate nurses 6-24 months of clinical experience	Hermeneutics
Wiles (2010)	USA	Adult intensive care	Basic knowledge of newly graduate nurses' and their experience as they made clinical judgments	Individual interviews 5 newly graduate nurses 0-18 months of clinical experience	Hermeneutic phenomenology
Clearly et al. (2011)	Australia	Mental health nursing	Explore challenges and achievements of mental health nurses in their graduate years	Individual semi-structured interviews13 mental health nurses. 3-24 months of clinical experience	Thematic analysis
O'Kane (2012)	UK	ICU	Investigate newly graduate nurses' transition into the ICU	Semi-structured individual interviews; focus groups. 8 newly graduate nurses. Less than one year of experience in ICU; 7 senior nurses in ICU	Comparative qualitative approach
Seright (2011)	USA	Rural hospital	Novice nurses' decisions in patient care	Interviews, observation.12 novice nurses twelve months post-orientation	Grounded theory

Hoare et al. (2013a)	New Zealand	General practice	Investigate practice nurses use of information	Ethnography Interview. 6 experienced practice nurses, 5 new graduate nurses	Constructivist grounded theory (Charmaz 2006) Analysis: storyline
Hoare et al. (2013b)	New Zealand	General practice	Explore how practice nurses utilize evidence and what they consider useful information	Ethnography, interview 6 experienced nurses, 5 new graduate nurses in their first year following registration	Constructivist grounded theory (Charmaz 2006)
Odland et al. (2014)	Norway	Medical, surgical units	Highlight the experience of being newly educated nurses	Narrative interviews, 8 newly educated nurses, 9-16 months of clinical experience	Ricoeur's phenomenological hermeneutics

Appendix B Excerpt from item, pattern and structural level of analysis

	Structure	**Pattern**	**Coded item – Interview**	**Coded item – Observation**
Knowledge Sources	Other	Experienced Nurse –The imperative Knowledge Source	'In situations that I have not been in before or I am unsure about, I ask my colleagues about how they would do it'. (Informant 2) 'I often ask my colleagues for advice. They have the experience and they have read about the stuff. It is just so much easier to ask them for advice in a busy everyday life'. (Informant 3) 'I do not usually jump right into something I have not tried before. Especially not with the newly operated patients. I had never changed that kind of wound dressing before. So I chose to ask one of my more experienced colleagues for advice. She has been here for many years and has lots of experience. I asked her what she would do. I often lean on my colleagues and I often ask them for advice about a lot of things'. (Informant 8)	'Intravenous medication is prescribed for the patient. Newly graduated nurse says she has never administered that kind of medication before. The experienced nurse says *"I'll show you how to do it"'* (Informant 2) 'Experienced nurse and newly graduated nurse are standing at the foot of the bed. Experienced nurse cleans the patients' wounds and dresses it with wound dressing. Tells the newly graduated nurse what she is doing but not why she is doing it. Newly graduated nurse listens. Has no questions. Just listens to the information given'. (Observation Informant 3)

Knowledge Sources	'Other'	Physician – The educative Knowledge Source	'Well I have learned by assisting at countless of surgeries. I have learnt it from the physician right from the start. I knew nothing. It doesn't exist in writing. I sat next to the physician and he drew and explained and told me how things work. So, it's from the physician I know what to do and what my role is as a nurse in theses situations' (Informant 1). *'Interviewer*: Well, how do you prepare for decisions concerning patients who are diagnosed with conditions you know very little about? *Informant:* Well, I think our physicians would say that I called them a lot (informant laughs)'. (Interview Informant 8)	'The newly graduated nurse is guided by the physician when newly graduated nurse cleans the patients wound and new bandage is put on. The physician explains what necrosis is and the different stages'. (Informant 3) Seeks out the physician and asks him about the patients low potassium levels. Physician answers: We will not act on it, because it is due to hear limited food intake. Newly graduated nurse documents this in the nursing records. (Informant 8)
		Patients and relatives – The unperceived knowledge Source	'*Interviewer:* In the situation with the patient who has a strange numb feeling in her feet you decide to ask the physician for advice before giving the medication? What made you decide to inform the doctor about the patient's feet, rather than just giving the medication as the procedure prescribes? *Informant*: I know from previous situations that that a numb tingling feeling in	'Patient tells about a feeling of cold feet and that it tingles ad feels numb. It is a bit painful. Newly graduated nurse pulls up a chair next to the patient. Newly graduated nurse asks the patient to elaborate on the feeling of pain. '*Pain - what kind of a pain "*asks the newly graduated nurse. Patient responds: "*It was only yesterday"* says pt. Newly graduated nurse asks if it's a spasmodic

Knowledge Sources	'Other'	Patients and relatives – The unperceived knowledge Source	your feet can be a side effect to the medication, and last time I had a patient with these symptoms the experienced nurse said I had to report it to the physician and eventually pause the medication' (Informant 4).	sensation. Patient responds that she thinks it's arthritis'. (Informant 4)
		Documents – The routinized knowledge source	'Well, we have to use VAS-Score (Visual Analog Scale – Pain assessment tool) and assess the patients daily, preferably every morning.'(Informant 3) '*Interviewer:* Do you use clinical guidelines? *Informant:* No, there isn't really the time. Well, there was Monday. I suppose that is the first time I've had the time for it. I could have searched for a guideline, if you hadn't been there. Well I could have even if you were there and I actually thought about looking up if the flow of the intravenous medication is different for children. Especially because we had two children admitted at the ward who received antibiotics i.v.. I should have been more sure about the speed of the intravenous flow. I often want to check up on things but there just isn't the time	'A pain assessment tool is placed on the wall in the patients room. The newly graduated nurses does not use the tool when she asks the patient about his pain.' (Informant 3) 'Physician prescribes medication for pain and itching over the phone. The newly graduated nurse asks the experienced nurse if the medication has to be diluted with NaCl before inducing the medication. Although there is a procedure for dilution and administration of the medication the newly graduated nurse does not confer with this medical/pharmacological procedure. She administers the medication to the patient i.v..' (Informant 2) '*Summary:* Newly graduated nurse has routines concerning the

Knowledge Sources	'Other'	Documents – The routinized knowledge source	for it'. (Informant 3) *'Interviewer:* Do you all clean the operating room the same way? *Informant:* Yes, we all know that when we turn up in the morning the rooms have been cleaned. So we do not need to use soap and water we simply need to use antiseptics on all the horizontal surfaces. We know that following every operation there has been a non-sterile person in the room and they have been operation using the machines and utensils. We have to use antiseptics between every patient. There is proof and probably some sort of evidence saying that bacteria and dust flows freely in the operation rooms. I know it. So, I probably just do it because it is a habit, but also because there is some evidence telling us to do so. I've had lessons in infectious hygiene'.(Informant 1)	administration of medication (checks and informs herself about the prescribed medication in pharmacological database, prepares the medication and labels it with the patients i.d.-number). However when the medication is prescribed on the run, outside the usual routine, the newly graduated nurses usual procedure is not done'. (Informant 2)

Knowledge Sources	'Other' 'Other'	Education – The insufficient covert knowledge source	With these patients, there is very little I do on the grounds of my nursing education. I have learnt so many things up here (the unit) that I had never heard of before. (Informant 8) 'Well, I think it is really, really difficult. It was hard and very provoking starting as a new nurse, and I felt far from competent enough as a nurse and I did not feel that I could handle the tasks I was supposed to handle (Informant 6) 'I do not think that they at the school of nursing take into consideration what reality really looks like. There is not room enough for all the patients, there are staff cuts. Everything is just so rosy and fantastic. A lot of the teachers at the school of nursing are very clever, it is not that. It is just , they have no idea what is going on in the clinical field, or maybe they just look the other way. Nobody tells you what reality really looks like. Patients in the hallways and so on (Informant 6)	Informant tells me the following: At the School of nursing they have all these fine and idealistic ideas about nursing, however it becomes really difficult when one has to work in this reality that does not resemble what we were taught' (Informant 6)

Knowledge Sources				
	’Oneself’	Professional experience	’I do it because that is just the way we do it here. But it is also because I have experienced that it works with these patients’ (Informant 2) ‘The reason I reacted on the physicians advice and confronted him is that these patients who receive this kind of medication sometimes experience a neurological reaction either to their hands or feet. I know that the usual procedure is not a pause in treatment lasting fourteen days. The usual treatment is quite different. You reduce the dosage or as a maximum pause the treatment for one week’. (Informant 4) ‘We observe our patients for bleeding and swelling. I use my knowledge from nursing education, but everything that has to do with risk of bleeding, anemia and how much they are or are not allowed to bleed I know form my time at this ward (Informant 8)	

Knowledge Sources	’Oneself’	Personal experience	‘From nurse education or somewhere. I also think that something I’ve kind of learned through being a human being. So it is not just something I have from my education, but also, from just my way of being. If I'm in a private context, I would do the same’ (Informant 4). ‘Responding to a patient and seeing the patient as a whole cannot be taught, it derives from you as a human being’ (Informant 5). ’If I had not been a nurse, and I had been confronted with the family then I would also have been able to communicate with them (Informant 8) ’I use things I have learnt in my upbringing. Things I have learnt besides being nurse. I have travelled a lot in places where I do not speak their language and I have learnt to communicate with them anyway (Informant 8) ’In nursing school we were taught about how to show respect and be respectful towards the patients. However, I think it is quite natural for me to initially meet the patient with respect and to find out in	

Knowledge Sources	‘Oneself’	Personal experience	what place the patient is right now and how close I can come to the patient or to figure out when it is best to keep a distance. I seldom walk into the situation thinking ‘I learned this and that in school and I have to use these things now. No, it’s more a natural part of me. (Informant 7)	
	’Gut-feeling’	Gut-feeling	‘It was something within me as a person, a ‘gut feeling’ and yes of course it's also something I've learned through my training and education which underpins my judgment, but I would not be able to tell you where I read it’ (Interview Nurse 8). ‘There are just so many things that are difficult to articulate. They are ‘feelings’, that are just part of the person you are. Of course there are guidelines and things you just have to do , but apart from that, it is really difficult to explain and articulate what it is that I’m actually doing and why. (Pauses) It has to do with a ‘feeling’ when you are in the situation. It’s about what ‘feels’ right.’ (Informant 7) ’It has been bleeding for several days. That is not	

Knowledge Sources	’Gut-feeling’	Gut-feeling	normal. Normally that kind of bleedings stop quite quickly. There aren’t gushes with blood, as we sometimes see when catheter insertion in the groin …. Compared to that it does not bleed a lot. I suppose it is about a ‘feeling’ that although this doesn’t bleed too much it is still not normal. (Informant 9)	

Appendix C Ethical Approval Scientific Ethical Committee

Kære Siri Lygum Voldbjerg
Du har ved mail af 24. januar 2014 forespurgt Den Videnskabsetiske Komité for Region Nordjylland om anmeldelsespligt at dit planlagte projekt.
På baggrund af de fremsendte oplysninger – nyuddannede sygeplejerskes kliniske beslutningstagen undersøges dels ved observation af klinisk praksis og dels ved interview af sygeplejerskerne - er det sekretariatets opfattelse, at der er tale om en interview- og observationsundersøgelse. Projektet er derfor ikke omfattet af komitélovens (lov nr. 593 af 14/6/2011) definition på et sundhedsvidenskabeligt forskningsprojekt og skal ikke anmeldes til og godkendes af komitéen, jf. komitélovens § 14, stk. 2.
Projektet kan iværksættes uden yderligere tilbagemelding fra Den Videnskabsetiske Komité for Region Nordjylland.
Klagevejledning: afgørelsen kan, jf. komitélovens § 26, stk. 1, indbringes for Den Nationale Videnskabsetiske Komité senest 30 dage efter, afgørelsen er modtaget. Den Nationale Videnskabsetiske Komité kan, af hensyn til sikring af forsøgspersoners rettigheder, behandle elementer af projektet, som ikke er omfattet af selve klagen. Klagen samt alle sagens dokumenter sendes til: Den Nationale Videnskabsetiske Komité – DKetik@DKetik.dk
Med venlig hilsen

SEKRETARIATET for DEN VIDENSKABSETISKE KOMITÉ for REGION NORDJYLLAND
Regionssekretariatet, Patientdialog
Niels Bohrs Vej 30
9220 Aalborg Ø
Tlf. 97 64 84 40
vek@rn.dk
www.vek.rn.dk

Appendix D Ethical approval from Data Protection Agency

Kære Siri
Det projekt, du har anmeldt "Newly Graduated Nurses' Clinical Decision-Making - An Ethnographic Study of Newly Graduated Nurses' use of different forms of Knowledge in Clinical Decision-Making (Ph.D.-project)", er omfattet af Region Nordjyllands paraplyanmeldelse ved Datatilsynet – Sundhedsvidenskabelig forskning i Region Nordjylland (2008-58-0028).
Jeg kan ikke ud fra det fremsendte skema se, hvor projektets data vil blive gemt, så derfor vil jeg for en god ordens skyld gøre dig opmærksom på følgende:
Når data lagres elektronisk med cpr-nummer, skal der foretages en bestemt form for logning. Der skal logges, hvem der har adgang til oplysningerne (adgangslogning), og hvad hver enkelt person, der er inde på oplysningerne, foretager sig (transaktionslogning).
Det er en ret omstændelig type logning, som regionen pt. ikke har mulighed for at udføre men bedst mulig løsningsforslag er, at lagre oplysningerne uden cpr-nummer men med et ID-nummer. Den nøgle, man bruger til at gå fra cpr-nummer til ID-nummer, skal gemmes forsvarligt adskilt fra de øvrige data.
Hvis data lagres i de gængse journaloplysnings-systemer, sker der både adgangs- og transaktionslogning.
Hvis data lagres på alm. drev (både fællesdrev og personlige drev), sker der kun adgangslogning. Derfor skal data, der lagres på drev, altid være med ID-nummer.
Bemærk at hvis der skal laves opslag i elektroniske patientjournaler uden en aktuel patient-behandler-relation eller et informeret patientsamtykke, gælder retningslinjen Adgang til helbredsoplysninger i elektroniske systemer for særlige personalegrupper
Hvis du har spørgsmål eller andet, er du meget velkommen til at ringe eller maile til mig.
Venlige hilsner
Karoline
Venlig hilsen
Karoline Andersen
Jurist
9764 8388
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digital signatur sendes til region@rn.dk

Appendix E Application for authorization to contact clinical management in units

Til Klinikledelser ved Aalborg Universitetshospital

Vedr.: Forespørgsel om tilladelse til at kontakte afdelingsledende sygeplejersker.

I forbindelse med ph.d.-projektet 'Nyuddannede sygeplejerskers kliniske beslutningstagen: en etnografisk undersøgelse af de vidensformer der ligger til grund for den kliniske beslutningsproces', søger jeg 10-12 nyuddannede sygeplejersker til at indgå som informanter i ph.d.-projektet. Sygeplejerskerne skal være ansat på medicinske eller kirurgiske sengeafsnit på Aalborg Universitetshospital. Projektet er forankret i Forskningsenheden for Klinisk Sygepleje, Aalborg Universitetshospital.

Jeg forespørger om tilladelse til at kontakte afdelingsledende sygeplejersker for de respektive sengeafsnit i klinikkerne, med det formål at informere om projektet samt rekruttere informanter.

Såfremt i har spørgsmål, er i velkomne til at kontakte mig på mail adressen: s.voldbjerg@rn.dk

Tak for hjælpen og med venlige hilsner fra

Siri Lygum Voldbjerg

Cand.cur., ph.d.-studerende

Erik Elgaard Sørensen

Forskningsleder ved
Forskningsenhed for
Klinisk Sygepleje

Appendix F Written information provided to clinical management

Nyuddannede sygeplejersker søges til at indgå som informanter i et sygeplejefagligt ph.d.-projekt

Til afsnitsledende sygeplejerske,

I forbindelse med ph.d.-projektet '*Nyuddannede sygeplejerskers kliniske beslutningstagen: en etnografisk undersøgelse af de vidensformer der ligger til grund for den kliniske beslutningsproces'*, søger jeg nyuddannede sygeplejersker til at indgå som informanter i projektet.

Formålet med projektet er at få viden om, hvilken viden nyuddannede sygeplejersker gør brug af i deres kliniske beslutninger. Projektet er tilrettelagt som et observationsstudie efterfulgt af individuelle interview. For at få et indblik i sygeplejerskens hverdag, de beslutninger sygeplejersken tager og den kontekst beslutningerne tages i, ønsker jeg at følge sygeplejerskerne i deres daglige arbejdsgang på afsnittene. Observationerne og interviewene forventes planlagt over tre perioder af ca. to - tre vagters varighed fra april 2014 til og med november 2014. Projektet er forankret i Forskningsenhed for Klinisk Sygepleje, Aalborg Universitetshospital og min hovedvejleder er forskningsleder Erik Elgaard Sørensen.

Jeg søger i alt 10-12 nyuddannede sygeplejersker, fordelt på 2-3 sygeplejersker fra hver klinik til at deltage i forskningsprojektet. Sygeplejersker som fra april 2014 har mellem 6-18 måneders klinisk erfaring fra et af klinikkens afsnit.

Sygeplejersker, som ønsker at deltage i projektet, har spørgsmål eller brug for yderligere information om projektet og dets forløb, kan kontakte mig på mail adressen: s.voldbjerg@rn.dk eller ringe på 72 69 10 82. Jeg kommer gerne og fortæller nærmere om projektet. **Svarfrist: 11. april 2014.**

Jeg håber at høre fra dig.

Tak for hjælpen og med venlige hilsner fra

Siri Lygum Voldbjerg,

Sygeplejerske, cand.cur., ph.d.-studerende

Appendix G Written information provided to newly graduated nurses

Information vedrørende ph.d.-projektet:

'Nyuddannede sygeplejerskers kliniske beslutningstagen: En etnografisk undersøgelse af de vidensformer der ligger til grund for den kliniske beslutningsproces'

Tak for din interesse i at deltage i projektet. Nedenstående er lidt information om projektet samt dets forløb.

Formål: Formålet med projektet er at beskrive de former for viden, der informerer de nyuddannede sygeplejerskers kliniske beslutning, herunder hvordan vidensformer inddrages, legitimeres, vedtages og omsættes til klinisk beslutningstagning. Undersøgelsen vil give ny indsigt og viden i relation til implementering af evidensbaseret sygeplejepraksis. Resultaterne kan inspirere til en ændring i arbejdsgange i kliniske afsnit, med det formål at skabe et øget fokus på kliniske beslutninger og hvad som skal til, for at tage beslutninger som øger sikkerheden og kvaliteten af plejen til den enkelte patient. Undersøgelsen vil bidrage med viden om tanke-og handlemønstre samt arbejdsgange i relation til kliniske beslutninger og evidensbaseret praksis. Denne viden kan indarbejdes i udviklingen af uddannelsesplaner og organisering af den teoretiske og kliniske undervisning i sygeplejerskeuddannelsen og klinisk sygeplejepraksis.

Informanter: 10-12 nyuddannede sygeplejersker fra fem klinikker på Aalborg Universitetshospital.

Metode: Studiet er et etnografisk studie, hvor data indsamles ved hjælp af feltobservationer og interviews af den enkelte sygeplejerske, som deltager i projektet. Jeg vil følge sygeplejersken i den daglige arbejdsgang på afsnittet.

Ved feltobservationerne vil jeg have fokus på:

- Sygeplejerskens kliniske beslutninger
- Hvilken type kliniske beslutninger der tages?
- Hvorledes beslutningerne tages?
- Hvilken viden/informationskilder der bliver gjort brug af i forbindelse med kliniske beslutninger?

Ved de individuelle interview vil jeg have fokus på:

- At spørge nærmere ind til sygeplejerskens tanker om og opfattelse af udvalgte situationer og kliniske beslutninger med fokus på de vidensformer der inddrages.

Varighed: Observationerne og interviewene er foreløbigt planlagt til at strække sig over to vagter i perioden maj - oktober 2014. Der planlægges 1 interview som ligger i forlængelse af observationerne. Interviewet vil vare ca. 30-45 minutter.

Anonymitet: Dit navn vil ikke fremgå af de samlede resultater og data og resultater vil blive fremstillet på en sådan vis, at det ikke vil være muligt for andre at genkende dig i datamaterialet.

Lydoptagelse*:* Interviewene vil blive optaget på diktafon for at få et så præcist materiale at analysere på som muligt. Optagelserne vil blive slettet, når interviewene er transskriberede.

Såfremt du har spørgsmål eller brug for yderligere information om projektet og dets forløb, er du velkommen til at kontakte mig på mail adressen: s.voldbjerg@rn.dk eller ringe på 72 69 10 82.

Venlig hilsen

Siri Lygum Voldbjerg

Sygeplejerske, cand.cur., ph.d.-studerende

Appendix H Form of consent

Informeret samtykke til deltagelse i sundhedsvidenskabeligt forskningsprojekt

Forskningsprojektets titel:

'Nyuddannede sygeplejerskers kliniske beslutningstagen: En etnografisk undersøgelse af de vidensformer der ligger til grund for den kliniske beslutningsproces'

Erklæring fra informanten:

Jeg har fået skriftlig og mundtlig information og jeg ved nok om projektets formål, metode, fordel og ulemper til at sige ja til at deltage.

Jeg ved, at det er frivilligt at deltage og at jeg altid kan trække mit samtykke tilbage uden at det har konsekvenser for *min stilling som sygeplejerske*.

Jeg giver samtykke til at deltage i forskningsprojektet og har fået en kopi af dette samtykkeark samt en kopi af den skriftlige information om projektet til eget forbrug.

Informantens navn:_____

Dato:_____ Underskrift:_____

Ønsker du at blive informeret om forskningsprojektets resultat? (sæt kryds udfor ja eller nej)

Ja: _____ Nej:_____

Erklæring fra den der afgiver information:

Jeg erklærer at forsøgspersonen har modtaget mundtlig og skriftlig information om forsøget. Efter min overbevisning er der givet tilstrækkelig information til, at der kan træffes beslutning om deltagelse i forskningsprojektet.

Dato:_____ Underskrift:_____

Appendix I Written information provided to healthcare staff

Observatør i afsnittet den 26. og 27. august 2014.

I forbindelse med ph.d.-projektet *'Nyuddannede sygeplejerskers kliniske beslutningstagen: En etnografisk undersøgelse af de vidensformer der ligger til grund for den kliniske beslutningsproces'* vil jeg den 26. og 27. august 2014 være i afsnittet hvor jeg vil følge XXXX.

Jeg er sygeplejerske og ph.d.-studerende tilknyttet Forskningsenhed for Klinisk Sygepleje på Aalborg Universitetshospital samt sygeplejerskeuddannelsen ved UCN.

Formålet med projektet er at beskrive de former for viden, der informerer de nyuddannede sygeplejerskers kliniske beslutning, herunder hvordan vidensformer inddrages, legitimeres, vedtages og omsættes til klinisk beslutningstagning.

Studiet er et etnografisk studie, hvor data indsamles ved hjælp af feltobservationer og interviews af 11 sygeplejersker. De kommende dage vil jeg følge XXXX i den daglige arbejdsgang på afsnittet.

Ved feltobservationerne vil jeg have fokus på:

- XXXX's kliniske beslutninger
- Hvilken type kliniske beslutninger der tages?
- Hvorledes beslutningerne tages?
- Hvilken viden/informationskilder der bliver gjort brug af i forbindelse med kliniske beslutninger?

Ved de individuelle interview vil jeg have fokus på:

- XXXX's tanker om og opfattelse af udvalgte situationer og kliniske beslutninger med fokus på de vidensformer der inddrages.

Såfremt du er interesseret i yderligere information om projektet og dets forløb, er du velkommen til at kontakte mig på mail adressen: s.voldbjerg@rn.dk eller ringe på 72 69 10 82.

Venlig hilsen

Siri Lygum Voldbjerg

Sygeplejerske, cand.cur., ph.d.-studerende

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