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The Significance of Proximity and Timeliness for Patient-focused Nursing Care and Electronic Documentation in Acute Care Wards

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Abstract

The reality of modern acute care is fast-paced and the processes are fragmented. The patients' stays in hospital are short and they are quickly discharged or transferred to another health care facility. These factors require that the patient care be of a high quality and that it supports the continuity of care.

The purpose of the study was to create a substantive theory of patient-focused nursing care and its documentation in electronic patient records in acute care wards. The data collection took place in the years 2007 and 2008 in four acute care wards of a Finnish tertiary-care hospital. The research method chosen was the grounded theory approach, as developed by Strauss and Corbin. The data were collected by using documentary sources and through participant observation. The data comprised the following sets: 1) forty (N=40) electronic patient records from the hospital archives; and 2) participant observation of the nursing and other professional care for forty-three patients, along with the related electronic records of the participating patients (N=43).

The discovered core category of the substantive theory was 'the significance of proximity and timeliness for patient-focused nursing care and electronic documentation in acute care wards. The patients were at the heart of the theory. The concept of patients' endurance illustrated the participating patients' life situations while they were hospitalised. The constructed categories showed close, deferred and distant relationships in patient care and its documentation. The concepts of interface and broken interface illustrated that the care given by nursing and other professionals had significance for the patients' endurance during their time in hospital and in their future lives.

The nursing care and related electronic documentation complemented each other, both necessary for patient-focused outcomes. The writing and reading of electronic patient records were affected by both proximity and timeliness, and they showed the significance of when, where and how the writing and reading occurred. Writing and reading about the care formed a pattern, which was influenced by—and in turn further influenced—the professionals' way of working, eventually having an effect on the patients' care. Constant disruptions made nursing care and its documentation difficult.

Through the documentation, nurses conveyed the patients' voice, their own view or the collaboration with the patients. Four styles of documentation were discovered: telegraphic, focused, story writing and missing documentation. All of them had consequences for the continuity of the patients' care.

According to the findings, it is crucial to keep patients as the core focus in health care. The short length of stay and fragmented care processes require that contact between the patients and health care professionals is optimised. This in turn requires that patient-focused care models are made possible and that electronic patient records can be used with the patients in real time. By developing nursing actions such that the patient is paramount, task-oriented actions and continuous disruptions can be minimised. It is essential that professionals in health care are able to use their time in direct patient care and thus improve patient-focused care and its electronic documentation.

The constructed substantive theory produced insight into the reality for patients in acute care. It reveals the significance of cohesiveness or fragmentation to the patients in acute care. The findings of the study can be used to develop nursing care and its electronic documentation. They can also be beneficial in educational settings, e.g., in nursing schools. Based on the findings, several areas for further studies related to patient-focused nursing, documentation and acute care are suggested.

Keywords: patient, patient-focus, patient-center, documentation, electronic documentation, patient record, electronic patient record, computers, grounded theory, participant observation, documentary analysis

Tiivistelmä

Akuutti terveydenhuolto on nopeatempoista ja hoitoprosessit ovat pirstaloituneita. Sairaalahoidossa olevien potilaiden hoitoajat ovat lyhyet ja heitä saatetaan hoitaa yhden hoitojakson aikana useassa terveydenhuollon yksikössä. Nämä seikat edellyttävät, että hoito on korkealaatuista ja että hoidon jatkuvuus on turvattu.

Tutkimuksen tarkoituksena oli luoda substantiivinen teoria potilaslähtöisestä hoitotyöstä ja sen dokumentoinnista sähköisessä potilasasiakirjassa akuutin hoidon osastoilla.

Tutkimuksen aineisto kerättiin neljällä akuutin hoidon osastolla vuosina 2007 ja 2008. Tutkimuksen lähestymistapa oli Straussin ja Corbinin kehittämä *grounded theory* menetelmä. Aineisto kerättiin käyttämällä osallistuvaa havainnointia ja analysoimalla sähköisiä potilasasiakirjoja. Aineisto koostui seuraavista kokonaisuuksista: 1) neljäkymmentä (N=40) sähköistä potilasasiakirjaa sairaalan potilasrekisteristä; ja 2) osallistuva havainnointi; neljänkymmenenkolmen potilaan (N=43) hoitotyö ja siihen liittyvä dokumentointi.

Kehitetyn substantiivisen teorian ydinkategoriaksi muodostui Ajan ja paikan merkitys potilaslähtöisessä hoitotyössä ja sähköisessä dokumentoinnissa akuutin hoidon osastoilla.

Potilaat ovat teorian ydin asia. Käsite potilaiden jaksaminen kuvasi tutkimukseen osallistuvien potilaiden elämäntilannetta sairaalassaolon aikana. Muodostuneet kategoriat paljastivat potilaiden ja hoitohenkilökunnan välisiä hoitosuhteita, jotka olivat joko läheisiä tai etäisiä. Käsitteet kohtaaminen ja särkynyt kohtaaminen osoittivat, minkälainen merkitys hoitotyöllä oli potilaiden jaksamiselle sekä sairaalassaolon aikana että tulevaisuudessa.

Hoitotyö ja sähköinen dokumentointi täydentävät toisiaan ja ovat erottamaton osa potilaslähtöistä hoitotyötä. Tulokset osoittivat että ajalla ja paikalla oli merkitystä sähköisten potilaskertomusten kirjoittamiselle ja lukemiselle. Kirjoittaminen ja lukeminen muodostivat prosessin, joka vaikutti hoitohenkilökunnan tapaan työskennellä ja näin ollen myös potilaiden hoitoon. Hoitotyön jatkuva keskeytyminen ja häiriintyminen vaikeuttivat hoitotyön ja dokumentoinnin toteutumista.

Dokumentoinnin avulla hoitotyöntekijät kuvasivat potilaiden omaa ääntä, hoitavien näkemystä sekä potilaiden että hoitotyöntekijöiden yhteistä näkemystä. Neljä dokumentoinnin tyyliä havaittiin ja ne nimettiin seuraavasti: sähkösanomatyyli, keskittynyt tyyli, tarinan kirjoittaminen sekä puuttuva dokumentointi. Jokaisella dokumentoinnin tyylillä oli seurauksensa hoitotyön jatkuvuudelle.

Tutkimuksen tulokset osoittavat, että potilaiden tulee olla terveydenhuollon toiminnan lähtökohta. Lyhyet hoitoajat ja potilaiden hoitopolun pirstaloituminen moneen hoitoyksikköön edellyttävät terveydenhuollon toimintamallien kehittämistä siten, että fyysinen ja ajallinen läheisyys potilaiden ja terveydenhuollon ammattilaisten välillä on mahdollista. Tämä puolestaan edellyttää sitä, että potilaslähtöiset toimintamallit tehdään mahdollisiksi ja että sähköinen dokumentointi voi tapahtua potilaan kanssa reaaliaikaisesti. Kehittämällä toimintoja siten, että potilaslähtöisyys ohjaa toimintaa, voidaan minimoida tehtäväkeskeisyyttä ja hoitotyön jatkuvaa keskeytymistä. Oleellista on, että ammattitaitoiset hoitotyöntekijät voivat käyttää työaikansa potilaiden kanssa ja näin voivat edistää potilaslähtöistä hoitotyötä ja sähköistä dokumentointia akuutin hoidon osastoilla.

Kehitetty substantiivinen teoria luo käsityksen hoitotodellisuudesta akuutissa hoitotyössä. Se paljastaa eheyden ja pirstaloituneisuuden merkityksen potilaille akuutissa hoitotyössä. Tutkimuksen tuloksia voidaan käyttää kehitettäessä hoitotyötä ja sähköistä dokumentointia. Tuloksia voidaan myös hyödyntää hoitotyön opettamisessa. Tulosten perusteella esitetään useita potilaslähtöisyyteen dokumentointiin ja akuuttiin hoitotyöhön liittyviä jatkotutkimusehdotuksia.

Avainsanat: potilas, potilaslähtöisyys, potilaskeskeisyys, kirjaaminen, sähköinen kirjaaminen, potilasasiakirja, sähköinen potilasasiakirja, tietotekniikka, grounded teoria, osallistuva havainnointi, asiakirja-analyysi

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List of abbreviations

e-Doc   electronic documentation
EPR   electronic patient record
GT   grounded theory
PO   participant observation
POC   point of care

List of original publications

I   Laitinen H, Kaunonen M & Åstedt-Kurki P. 2010. Patient-focused documentation expressed by the nurses. *Journal of Clinical Nursing* 19 (3-4), 489-497.

II   Laitinen H, Kaunonen M & Åstedt-Kurki P. 2011. When time matters: the reality of patient care in acute care settings. *International Journal of Nursing Practice* 17 (4), 388-395.

III   Laitinen H, Kaunonen M & Åstedt-Kurki P. The impact of using mobile electronic patient records on practices of reading and writing. Accepted 5.5.2013 for publication in *Health Informatics Journal (HIJ)*.

IV   Laitinen H, Kaunonen M & Åstedt-Kurki P. Methodological tools for data collection and analysis of participant observation, using the grounded theory method in nursing. Accepted 2.1.2014 for publication in *Nurse Researcher*.

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1   Introduction

Many constraints challenge modern health care. It is known that the length of a patient's stay in an acute care setting continues to decline globally (OECD 2013; Statistical yearbook on social welfare and health care 2013). According to the Finnish Statistical yearbook on social welfare and health care (2013), the hospitalised patients' average length of stay in somatic specialised care was 3.4 days. In Finland, somatic acute care is concentrated in specialised settings where the know-how and appropriate facilities are available (Health Care Act 2010/1326). For patients in acute care wards, the short length of stay means that they are quickly discharged or transferred to another ward, hospital or health centre. With such discharges or transfers, responsibility for the continuity of care is transferred to either the patients themselves and their family members, the professionals in the other care facility, or both. In the shift from one care environment to another, patients meet numerous professionals who are involved with their care. (WHO 2007, Wiggins 2008.) The multidimensional fragmentation of the patients' care processes is a concern. In nursing, shift work is one cause of fragmentation. Organising shift work in short term acute care facilities is constrained by numerous requirements and challenges, such as legislation (Act on working hours 1996/605, Act on occupational safety 2002/738), patient safety issues (Laschinger & Leiter 2006) or a shortage of nurses (Attree 2001, WHO 2007, Buchan & Aiken 2008). Quality, safety and continuity must be carefully monitored because of the unavoidably fragmented care processes (Caleja et al. 2010). Fragmentation poses various risks, such as adverse events, complications of the care, mistakes in medication, unnecessary tests and increasing financial burdens (Bourgeois et al. 2010, Lewis et al. 2013).

The experience and outcomes of the patients in acute care depend, in part, on how the care is delivered (Kjörnsberg et al. 2011). How the care is coordinated can either foster or harm the continuity as well as increase or decrease fragmentation (McCormack et al. 2010). A person-centred approach to the care may lead to health improvements and better functionality and also reduce length of hospital stays (Ohlson et al. 2013). Patients' participation in their own care is a prerequisite, through which they can take the responsibility upon themselves (Larson et al.

2007), be able to coordinate their care in various health facilities (Cebul et al. 2008) and thus improve their health and well-being. Participation is a multi-faceted process, including collaboration between the patients, nurses and other health care professionals (Shoot et al. 2005). Patients need informal and emotional support while hospitalised in order to improve their self-care and life style (Mattila et al. 2010).

The strategy of the Finnish Ministry of Social Affairs and Health (Socially Sustainable Finland 2020) highlights the inclusivity of the whole community. The Finnish Patient Act (1992) stipulates that patients have a right to self-determination, which means that they are cared for with a collaborative understanding and agreement with the professionals who are involved with their care. Good care of the patients requires that the professionals in the relationship with their patients have a broad body of knowledge about the patients' health status and related care and evaluation measures. (Health Care Act 2010.) In fragmented care processes, communication breakdowns are among the highest risks, causing harm to patient care. (WHO 2007, Caleja et al. 2011).

For consistent communication between all who participate in an individual patient's care, accurate documentation is crucial (Cheevakasemsook 2006, Paans et al. 2010, Russ et al. 2010). Both patient care and its documentation are integrally interwoven together, complementing and depending upon each other (Hellesø 2006).

Ever since the time when patient records everywhere were exclusively on paper, nursing documentation has been a highly interesting topic for researchers. The investigation of electronic documentation continues to attract a high level of interest. When electronic documentation was introduced to health care, there were hopes, assumptions and expectations that nursing documentation would benefit from the power and advantages of computerised systems (Hellesø & Ruland 2001, Kärkkäinen & Eriksson 2004). There were further expectations that electronic documentation would promote interdisciplinary coordination, reduce gaps in patient care (Cebul et al. 2008) and link the information across various care sites (Bourgeois et al. 2010).

However, the desired benefits of computerized health records have not been entirely realised; the implementation of EPRs has not brought only success and improved systems to health care sites. It has also brought frustration, disappointment and instability (Ammenwerth et al. 2003). Such drawbacks detract from the patient-focus, which is the main goal (Korst et al. 2003, Russ et al. 2010).

The purpose of this grounded theory (GT) study was to generate a substantive theory of patient-focused nursing care and its electronic documentation in acute care wards. The subject matter is everyday practice in four specialized acute care wards and the data are gathered by participation observation and by reviewing the electronic patient records. Since the reality of acute care in modern health care is fast-paced and the care processes fragmented, the goal of a field study such as this is to gain insight into how patient-focused care and its documentation can be improved.

2   Starting points of the study

The starting points are based on the literature of the previously identified research interests and also on the legislation which controls health care and patient records in Finland. In order to establish the theoretical starting points, I performed data searches to gain insight into the subjects of the study (Corbin & Strauss 2008). The initial data searches were from the years 2006-2008 and were reinforced thereafter until finishing the study. The databases searched were Cinahl EBSCOHost, Academic Search Premier, Ovid Full Text and Medline, in addition to the contents of peer-reviewed nursing journals. Additionally, I did manual searches. The following keywords were searched, both individually and in various combinations.

'Patient', 'patient focus*', 'patient center*', 'client', 'express*', 'patient-orient*', 'adult', 'health', 'health care', 'documentation', 'documentary', 'patient record', 'care plan', 'electronic documentation', 'computer*', 'information technology', 'audit', 'language', 'nurse', 'nursing', 'acute care', 'special*', 'interdisciplinary', 'multidisciplinary', 'writing', 'written', 'text', 'reading', 'point of care', 'length of stay', 'participation', 'decision', 'decision-making', 'grounded theory', 'ethnograph*', 'hospital', 'institution*', 'human', 'ethic*', 'observation*', 'participant observation', 'interview*', 'informal interview*'

Based on the data searches, I familiarised myself first with the title of the article, and secondly with the abstract. Thirdly, I chose the relevant articles for my study purposes. Because of the study purposes, the data searches were first limited to the most recent literature and later expanded further to older work without time limits. There are, after all, concepts which do not expire in modern health care (Morse 2012).

2.1   Patient-focused nursing

In health care, patients have been defined according to various concepts and interpretations. Such concepts as 'patient-focused' (Mitchell et al. 2000), 'patient-centred' (van Mossel et al. 2011, Abdelhadi & Drach-Zahavy 2012) and 'patients' perspective' (Bakker & Mau 2012) are often used. All those concepts support an

approach for providing individualised care for unique human beings. Their philosophical underpinning is human values and respect. (Mitchell et al. 2000.) In this study I use the concepts of 'patient-focused' and 'patient-centred' as synonymous. Also in this study, instead of 'client', I have chosen to use the word 'patient' because of its universal use.

In a literature review by Lutz and Bowers (2000), the writers stated that the concepts of patient approach have various interpretations and implementations. For example, there is a difference between a customer and a patient. A customer consumes or uses services or products whereas a patient receives treatment. A customer carries out purchases or acts and a patient is taken care of. A customer chooses and a patient accepts. (Lutz & Bowers 2000.)

When patients are asked their preferences and desires for their care, they say that they want to be treated as individuals and with respect (Attree 2001, Bakker 2012). Good quality care is patient-focused; there is open communication and a good relationship between the patients and nurses (Attree 2001). Working in collaboration with the patients leads to shared knowledge and thus involves the patients in decision making in their own care. (Hook 2006, Wiggins 2008) However, there are also situations when the patients are not able or willing to participate in their care or decision making (Lutz & Bowers 2000). Furthermore, participation can be seen as increasing patients' knowledge. Even in situations when they have no strength to participate, they need information. (Larsson et al. 2007.)

The concept of 'caring' is essential in patient-focused nursing. It has been discussed by numerous nursing researchers. For example, Finfgeld-Connett (2006, 2008a, 2008b, 2008c) has investigated the concepts of 'the art of nursing', 'presence' and 'caring'. Their connections are closely bound within each other. According to Finfgeld-Connett (2008c, 530), 'The art of nursing, presence and caring take place within an atmosphere of interpersonal sensitivity and intimacy, which is characterized by open and honest interactions.' In the definition of caring, the prerequisites are the nurses' willingness to share, personal and professional maturity, values and an environment which can produce a caring relationship (Finfgeld-Connett 2008b). Finnish nursing scientist Katie Eriksson in her caring theory highlights respect for the dignity of human beings (Eriksson 2002).

Patient-centred care is preferred as an approach because it improves health care outcomes (Wolf et al. 2008). Patients and nurses have either parallel or non-parallel perceptions of patient-centred nursing care. What is important for the patients is that they can trust the professionals, and a lack of communication results in

mistrust between the patients and the nurses. (Fakhr-Movahedi et al. 2011.) Poorly-delivered nursing, which doesn't channel the care in a patient-focused direction, can cause concerns. Fakhr-Movahedi and her colleagues noticed that the bio-medical model was still influential in nursing. Nurses leaned on routines and the doctors' orders rather than accommodating patients' needs. (Fakhr-Movahedi et al. 2011.) In a 2010 paper, Pearcey comments that in current health care the caring atmosphere might suffer from its cost-oriented manner; however, she concludes that 'when caring stops mattering to nurses, a crisis in nursing will truly arise' (Pearcey 2010, p. 55).

2.2 Expectations and attitudes towards computerised nursing documentation

There have been high expectations for computerised documentation systems and their potential for improving the quality of nursing care and its documentation (Kärkkäinen 2005). Use of EPRs provides for prompt messages and is expected to improve patient safety (Kossman & Scheidenhelm 2008). Cherry et al. (2011) found that the experiences of the users of a recently initiated electronic documentation system were positive. Nurses had more time for direct care, and their documentation improved. Favourable also was the ability to track the previous data. (Cherry et al. 2011.) Accessibility to patient information and legibility of the text have been regarded as immediate strengths of EPRs (Carrington & Effken 2011, Stevenson & Nilsson 2012).

The attitudes towards computerised nursing documentation vary. Lee (2008) reported nurses' dissatisfaction with deficient computers and a slow system. Nurses complained that the slowness decreased the quality of charting. Another source of frustration was that nurses and doctors had to compete with each other for the available computers. (Lee 2008.) Similar results were reported by Timmons (2003), who found that nurses had to wait their turn to perform their daily documentation. In a literature review conducted by Stevenson et al. (2010), the authors reported two primary reasons why nurses experienced dissatisfaction with the computerised system: (1) because of their non-user-friendliness, and (2) the fact that the systems don't allow individualised patient care. The authors also mentioned that even though nurses are the largest group of end-users of electronic documentation systems, their expertise has not often been sought when such systems are developed. (Stevenson et al. 2010.) This might be the cause for dissatisfaction. In a

quasi-experimental pre- and post-test survey by Smith et al. (2005), the expectations in a pre-computerisation phase were more positive than the attitudes after the implementation of the system. The dissatisfaction was caused by slowness, poor navigability and, again, inability to view the overall patient picture. This study, like Stevenson et al. (2010), reported similar criticism regarding the availability of the devices, as well as software weaknesses. (Smith et al. 2005.)

Nurses have concerns about computerised documentation in regard to patient safety issues. In a focus group study it became evident that it was not clear where to write important information. (Stevensson & Nilson 2012.) One of the benefits of IT is its direct usability when information has been documented. However, this benefit is reduced or negated when, as found in this study and others, bedside information was written on a piece of paper to keep until later transcription in EPRs. (Moody et al. 2004, Stevensson & Nilson 2012.)

One point of concern is how much time nurses and other professionals use for electronic documentation. In their paper, Hakes and Whittington (2008) report on the nurses' documentation time in one medical-surgical nursing unit. The time spent on documentation was related to the workload, patient volume and time of day. The authors compared the paper version of the records to the electronic version. They discovered a 25% reduction in documentation time after the implementation of computerised physician order entry, compared to the previous paper version. (Hakes & Whittington 2008.) A study by Korst et al. (2003) of a transition from paper to computerised documentation showed that fears that the latter would increase the time spent on documentation (and leave less time for the patients) were unfounded (Korst et al. 2003). Ammenwerth et al. (2003) reported nurses' complaints of increased documentation time after the implementation of computer-systems, and an accompanying lessening of acceptance towards them (i.e., computer-systems). Worries that computers take the nurses' time away from nursing care have been reported by Tang & Carpendale (2008). However, it takes time to adjust the IT technology to health care settings (Ammenwerth et al. 2003), and, thus, as reported by Tang and Carpendale (2008), after nurses became more familiar with the computers, time spent in nursing care increased.

2.3   Auditing nursing documentation

Auditing nursing documentation is a means to evaluate the overall quality of documented nursing processes (Johnson et al. 2010); to compare different

practices, such as paper or electronic documentation (White 2005, Hellesø 2006); steps of the nursing process (Wang et al. 2011) or time between an incident and its documentation (Johnson et al. 2010). The documentation audit has also been developed to improve aspects of nursing care, such as wound care (Gartlan et al. 2010) or pain management (Samuels & Kritter 2011).

One significant purpose of documentation is to assure the continuity of care (Gjevjon & Hellesø 2010); therefore, the language written needs to be accurate and comprehensible. In their paper, Jefferies et al. (2011) uncovered language that was written using abbreviations or initials. The meaning of the written text was not clear to outsiders, who might be those who need the documentation. (Jefferies et al. 2011.)

Developing standardized language gives a systematic way to evaluate documentation (Saranto & Kinnunen 2009). Müller-Staub et al. (2009) created a research-based audit instrument. The theoretical background was built from nursing diagnoses, nursing interventions and patient outcomes. The audit instrument had statements that were evaluated with a three- or five-point Likert scale. The range gave relevance to the evaluation, allowing the tool to be applied to educational needs. (Müller-Staub et al. 2009.)

Johnson et al. (2010) developed an audit tool focusing on the content of documentation. It included standards and criteria, highlighting the importance of the patient. For example, one of the criteria was 'The patient was referred to by name in the nursing progress notes.' (Johnson et al. 2010, p. 834). However, this desired outcome, to make the patient record more personal, was very rarely found written. (Johnson et al. 2010.)

Wong (2009) reported on the development of a chart audit that was conducted retrospectively only one day after the completion of the charting. This was beneficial since an audit is usually performed at a time when it is no longer possible to return to the nursing care. Timely auditing enabled a return to the events recorded in the documentation since they were still fresh in the memory. The nurses evaluated the charting in accordance with set criteria. (Wong 2009.) The study found initial resistance on the part of the nurses to having their documentation audited. However, it was intriguing that after discussion with the reviewer and understanding the importance of the development of charting some nurses voluntarily wanted their documentation to be reviewed. (Wong 2009.)

Auditing documentation both for practical purposes in health care and for research has elicited information for further consideration. According to Kelley et al. (2011), the outcome of using electronic documentation in nursing care has

remained unclear and there are still research gaps in the structure and process. Additionally, there are discrepancies between the symptoms which patients have reported and those which have been documented (Pakhomov et al. 2008). Gjevjon & Hellesø (2010) found that, in documentation, nurses neglected patients' communication. Neglect was also found by Whyte (2005) in paediatric nursing documentation, e.g., omitting from documentation the child's physical abuse. Also, from the reader's perspective, if the needed information cannot be accessed it cannot be utilized in the nursing care. Therefore, electronic documentation systems need standardisation or systematisation (Saranto & Kinnunen 2009).

Auditing of documentation can also be carried out by patients. Powell et al. (2006) recruited 50 primary care patients for a project to find out what kind of information, from the patient's point of view, should and should not be written in their electronic records, as well as what information they found that they regarded to be incorrect. Topics the patients felt should not be shared in EPRs were issues of sexual and mental health. Incorrect information primarily concerned the patients' diagnoses or minor errors in the text. (Powell et al. 2006.) In a study by Ward and Innes (2003), patients were interviewed after they had read their medical summaries. The patients in this study appreciated the continuity of care which medical summaries provide. However, the study also reported that patients found occasion for corrections, especially in sensitive areas. (Ward & Innes 2003.) These two studies were performed by physicians but the electronic records share multiprofessional information and concerns, and target the common outcomes with everyone involved with patient care (Ward & Innes 2003, Powell et al. 2006).

2.4   Ethical issues in nursing documentation

Nursing documentation reflects the nursing care (Oroviogoicoechea et al. 2008), as well as the nurses' and other professionals' values, concept of human beings (Kärkkäinen 2005, Kärkkäinen & Eriksson 2005) and attitudes (Hellesø 2006). Moreover, laws, protocols and the managerial or organisational systems influence documentation (Oroviogoicoechea et al. 2008). Nursing care and nursing documentation are ethical issues. Careful and accurate documentation ensures good care for patients. Documenting the patients' own views is important. The realisation of ethical values is uncovered by the way patients' wishes and needs are documented. (Kärkkäinen 2005; Kärkkäinen & Eriksson 2005.) However, Heartfield (1996) found that nursing care was documented superficially and the

individual experiences of patients and their family members were filtered out. Also, Voutilainen et al. (2004) found that patients' mental status was documented only in every fourth record among long-term care patients, of whom 75% were diagnosed with dementia. Accordingly, patients as persons were not the main focus of the documentation. (Voutilainen et al. 2004.)

2.5   Finnish legislation for patient-focused care and its documentation

In Finnish law, a health care client's position is strong and protected in many ways. The status and rights of patients were defined in the Act of 1992 (785/1992). The essential emphasis is extensively on patients' rights, determining that every permanent resident in Finland has a 'right to good health care and medical care and related treatment of patients'. In regard to the patients' right to self-determination, they are required to be cared for with mutual understanding. To succeed in this, patients need to be informed about their care in an understandable way. (785/1992.)

Recording patient information is a legal responsibility for health care professionals. Based on the Act (785/1992), a decree on patient records by the Ministry of Social Affairs and Health (first promulgated in 2001 [99/2001] and revised in 2009 [298/2009]) defines general principles and requirements, including content of the records, materials used in the treatment and periods of validity. The professionals who participate in a patient's care have the right to access the records and make entries in them only to the extent that their duties and responsibilities require. The patient records must contain necessary and sufficient information for well-organised care, planning, implementation and assessment. The documentation needs to be clear and understandable and show the sources of information.

Every care event has to be entered in the records to a sufficient extent. Specifically, the records have to reveal the reason for care, the health or medical history of the patient, allergies, current status, observations, results, problems, diagnosis or health risk, conclusions, treatment planning, implementation and monitoring of the disease process, as well as the final statement. The patient records are written in chronological order without delay and they have to include both what has been done and decisions made during the care. (Decree on patient records by the Ministry of Social Affairs and Health 298/2009.)

In the Act on health care personnel (1994/559), the main aim is to improve patient safety and the quality of health care by ensuring health professionals' sufficient education, professional competencies and requirements. The health professionals' ultimate goal is to maintain and promote a person's health, by preventing and curing illnesses or disease and by relieving suffering. (1994/559.) With the Personal Data Act (1999/523), the purpose is to protect and secure a person's privacy. According to the Act, persons have the right to inspect their personal data. The Act also determines who has the right to access personal data. (1999/523.)

In Finland, a new Health Care Act became effective in 2011. Based on promoting and maintaining the health and welfare of citizens and other residents, the focus of the Act is on promoting client-orientation in the health care services. One part of it is to strengthen the cooperation among health care providers. To ensure the continuity of care, the aim is for those who take care of patients in different health care facilities to have access to the patient records. As determined by the Personal Data Act (1999/523), a patient's written consent is needed for access to his or her patient data between the heath care units.

In the Act on Electronic Processing of Client Data in Social and Health Care (159/2007), the purpose is to improve information security in electronic client data and to establish an electronic processing and national archiving system. Another aspect of the Act is improving patients' access to their electronic information. The Finnish health care establishment is moving toward uniform information systems. Presently, electronic patient records (EPRs) in Finland are nearly national (KanTa 2014). The Ministry of Social Affairs and Health takes responsibility for the services of the National Archive of Health Information (KanTa 2014), which is the umbrella name for the systems for planning, developing and executing electronic health care services, called Electronic Prescription, My Health Information, and Patient Records Archive, respectively. Tasks and responsibilities are distributed among affiliated components (KanTa 2014).

In regard to EPRs, there are several elements that must be present. The Patient Records Archive gives an opportunity for citizens to review their health information. When the EPRs are stored in the national archive, the records shall contain information in a unified form. (Act on Electronic Processing of Client Data in Social and Health Care 2007, Health Care Act 2010, KanTa 2014). Therefore, patient-focused health care needs a synchronized arrangement, keeping the health care clients paramount.

2.6   Summary of the starting points

It is evident that the research regarding patient-focused nursing care and electronic documentation aim to promote nursing development. However, the previous literature shows that there are discrepancies between patient-focused nursing care and electronic documentation, to which the fast-paced care processes add further complexity. There was a need for more investigation of the subject in order to fill in the gaps. Therefore, this study took a closer look at the practical environments of acute care and investigated the mentioned discrepancies. GT was used as an analytical method. Participant observation and the analysis of electronic patient records were the data collection methods used to uncover the realities of this area.

3 Aim of the study

The aim of this GT study was to generate a substantive theory of patient-focused nursing care and electronic documentation in acute care wards. The outcome is that, with the created theory, daily practices can be developed which will support the safety, continuity and quality of patient care.

The research tasks sought to answer the following questions:

1. What kind of patient-focused concepts does the nursing documentation in EPRs reveal? (article I)

2. What kind of patient-focused concepts are demonstrated by the nursing care? (article II)

3. What kind of relationship is there between the concepts of nursing care and the electronic documentation? (article III)

4. What is the substantive theory that emerges from the patient-focused nursing and the electronic documentation? (article IV; summary)

4 The empirical implementation of the study

4.1 Grounded theory method

The Grounded Theory method (GT) is a rigorous way of collecting and analysing qualitative data with the purpose of discovering basic social processes, defining the core category of the subject being studied and creating a theory from the data (Strauss & Corbin 1998, Charmaz 2006, Corbin & Strauss 2008). The roots of GT are in symbolic interactionism, which is a social-psychological theory of how human beings act and interact in the world. Human beings are in an ever-changing process of social construction and their behaviour is understood within the social context. (Blumer 1969, Aldiabat & Le Navenec 2011.)

The originators of the GT method, Barney Glaser and Anselm Strauss, created GT as a counterpoise to quantitative sociological research (1967). The method has diverged into two distinct approaches, which have further developed to a 'new genealogy' (Morse 2009). My choice was to use the approach developed by Strauss and Corbin (1990, 1998, 2008). As a novice researcher, I found the guidance for GT in the literature written by Strauss and Corbin to be beneficial. Additionally, the literature review at the beginning of the research process set the stage for what was to follow. (Strauss & Corbin 1990, Strauss & Corbin 1998, Corbin & Strauss 2008, Hunter et al. 2011.)

The aim of this study is to reveal how the daily reality is constructed by the people involved in acute care situations. Investigating a practical area such as acute care by using participant observation and documentary sources as data collection methods postulated a constant move between induction and deduction. The three-phase coding process (open, axial and selective coding) seemed to be suitable for my study purposes to treat the data acquired in four acute care wards. (Strauss & Corbin 1998, Corbin & Strauss 2008.)

The goal of GT is to create a substantive or formal theory. Substantive theory is situational and thus limited to certain contexts and psycho-social processes (Strauss & Corbin 1998, Corbin & Strauss 2008, Aldiabat & Le Navenec 2011) in a specific empirical area (Hutchinson 2000). In the formal theory, the level of conceptualisation is higher and more abstract than in the substantive theory and it

extends beyond the substantive theory. (Polit & Tatano Beck 2012). The present study aims to generate a substantive theory about nursing care and electronic documentation in acute care settings.

GT is a suitable method for investigating an area where the study interest is new, not much is known about it or a new perspective on the subject is wanted (Strauss & Corbin 1998, Corbin & Strauss 2008, Aldiabat & Le Navenec 2011). Even though both nursing care and electronic nursing documentation have been widely investigated, the practical connection between the two still needs further scrutiny. Therefore, I believed that by using GT a deeper understanding of the topic could be achieved. (Strauss & Corbin 1998, McCann & Clark 2003, Corbin & Strauss 2008.)

4.2   Data collection

4.2.1   Research sites

This study involved four somatic acute care wards in one hospital district. As an employee of the hospital I was familiar with the institution and its workings, which helped me to identify potentially suitable research sites. I did know the speciality areas but I did not have any particular knowledge about the individual wards. The choice of wards was approved by the relevant administration.

In the four chosen wards, the length of the patients' stay was generally short, varying from one day to three (but with some exceptions, up to four weeks). Each ward had its own medical specialities and its own patterns for the care process, from admission to discharge. The care took place not only on the ward but also in associated locations (e.g., operating theatre). Every ward gave its own contribution to the data. The variations of the patterns among the wards gave comparison and richness to the data and eventually led to strengthening of the data saturation (Strauss & Corbin 1998, Bowen 2008, Corbin & Strauss 2008). There were differences in, for example, how patients arrived in the ward (whether by appointment or emergency), or how the electronic documentation system was facilitated by means of providing mobile or fixed computers for nurses, and how the nursing care and electronic documentation were carried out. The selected wards were labelled with the letters D, O, C, U. The data collection took place in the years 2007 and 2008. Table 1 presents the basic information about the wards.

Table 1.   Overview of research wards

Ward label	Type of ward and associated sites	Main admissions	Number of patients allocated to a nurse / morning shift
Ward D	Surgical ward * operating theatre	Emergency and elective surgical patients	3-5
Ward O	Oncological ward	Patients for oncological treatment: chemotherapy, radiotherapy, cancer care	3-5
Ward C	Internal medicine ward	Emergency patients for investigation of further care	3
Ward U	Surgical ward *operating theatre	Elective and emergency surgical patients, transferred patients for continuity of care	3-5

4.2.2   Documentary data

Using documentary sources is one avenue for data collection in grounded theory. They are usually employed as a complementary source to another data collection approach. (Strauss & Corbin 1998, Charmaz 2006, Bowen 2009, Corbin & Strauss 2008.) Pandit (1996) used documentary data as his primary source in creating a GT. In the present study, data in the EPRs were an integral part of the whole research.

EPRs are examples of extant texts. Such extant texts are data sources that reflect reality. The researcher can recognise what they contain and what the significance of the texts to various actors might be. (Charmaz 2006.) Thus, the documented texts were produced by the writers—in this study, the nurses—and interpreted by the researcher (Finnegan 2006).

In this study, I used the EPRs in different ways. The aim of the first documentary data (ten EPRs [n=10] in each ward, totalling forty [N=40]) was to answer the research question 'what are the patient-focused concepts of electronic nursing documentation?' (article I). The second documentary data consisted of the

EPRs of the patients (N=43) participating in the study during PO. The EPRs formed complementary data with the purpose of revealing the relationship between nursing and its documentation. I used them to find information about patient care, such as schedules for operations. Also, tracing back the information (Lofland et al. 2006) gave me insight into recent events as well as the patients' health history. All these methods were intended to develop and enhance the theory building (Bowen 2009).

4.2.3   Participant observation

Due to the study purpose, patients were the key informants. A total of 43 patients (N=43) participated in the study. The study focused on patient care and its documentation but without excluding the other elements in the environments (Lofland et al. 2006). This is why professionals and some relatives also brought their viewpoint to the study (Kaunonen 2000). Significant others were only part of the study if it was the patient's wish. In various circumstances the participating patients asked if their family member could be part of the care, such as in an admission interview, at discharge or during doctor's rounds.

The ward nurses and directors of nursing who administered the research sites accommodated the study by allowing me to ask clarifying questions, e.g., about some ward policies, decisions or organisational protocols or programmes. For this purpose I used both informal interviews and emails.

In this study, the interest was to reveal how the patients were represented in nursing and its electronic documentation in acute care environments. PO gave an opportunity to reveal incidents which the individual or focus group interviews and quantitative data could not have revealed. It has been noted that people act differently from what they say (Strauss & Corbin 1998, Mulhall 2003, Corbin & Strauss 2008). In a busy and complex health care environment such as an acute care ward, PO was regarded as a suitable data collection method (Foster 2006).

The participant observer explores the social life in research sites in order to become familiar with the daily life and its patterns (Lofland et al. 2006). Doing participant observation is not only seeing; rather, it involves all of the researchers' senses (Sandelowski 2002). Being sensitive in various situations was significant for interpreting the data that were being collected. I collected the data from different daily events, such as doctors' rounds or discussions between the patient and nurse during admission, discharge, care procedures and the actions of the professionals. I

participated together with the nursing staff in providing limited nursing care, e.g., helping with morning hygiene, caring for wounds, escorting the patient to and from operations or medical procedures, etc. Every single event added valuable data and gave deeper understanding of specific phenomena. For illustration, in every research ward doctors' rounds were daily interdisciplinary events with the professionals who participated in patient care (such as doctors, nurses and therapists). The goals of the rounds were to update the patients' current situation and to make the plans for their future care. For PO they provided plentiful information and essential data.

Part of PO data collection involved informal interviews with the patients and staff members. Informal interviews were free discussion between the participating patient or staff member and the researcher. They were spontaneous and usually did not have any pre-determined questions. They widened my perspective on observations and clarified the meaning of various phenomena. (Lofland et al. 2006.) For example, patients told me their own perspective on what had happened or what their feelings, desires and expectations were. The nurses explained why and how they did something or why something happened the way it did. This was also a way to gain answers to many 'why' questions in the field. (Hutchinson 2000, Lofland et al. 2006.)

My role as a researcher in PO varied along a continuum, changing from quiet observation to active participation, depending on the observed situation. I observed, quietly from the side, diverse incidents such as doctors' rounds and patient-nurse discussions at admission or discharge. After the observed event, I often returned to the participants (patient or nurse) to discuss what happened. In the active participation I was part of the nursing care situations. (Kemp 2001, Dewalt & Dewalt 2002, Leininger & McFarland 2006, Bryman 2012.) (articles II, III & IV.)

Time spent doing PO in the wards totalled 127 hours (article III). The observational data included jotted notes and transcribed documents of the observation of each participating patient and related activities, totalling 107 pages of single-spaced narrative text. For jotting in the field and transcribing the data of the observations, I used the observational protocol which is described and presented in article IV. Memo writing in every phase of GT and PO is emphasised by scholars who also define various memo types (Strauss & Corbin 1998, Lofland et al. 2006, Charmaz 2006, Corbin & Strauss 2008). In this study I wrote three kinds of memo: 1) an analysis diary for coding, 2) reflective memos for critical and

reflective thinking and dialogues, and 3) a researcher's diary for various reminders, as well as practical and technical notes.

4.3 The analysis

4.3.1 The analysis of EPRs

The first purpose of using document analysis was to gain understanding of and insight into how the patient-focused documentation is manifested in EPRs, expressed by nurses. The process was inductive and followed the GT analysis, involving open and axial coding. I asked multiple questions of the data, e.g., 'what does this text tell?', 'how does the text direct the care?' and 'what are the consequences for the patient's care?'

In the open coding, I used the microanalysis presented by Strauss and Corbin (1998, 2008). I compared the text of each EPR across the range of all EPRs. In the axial coding I re-organised the data into categories and sub-categories. The analysis process is explained in article I.

4.3.2 The analysis of participant observation

The data collection and analysis in GT are integral. They occur concurrently and form a circular process in which data collection, analysis and generated concepts follow each other and lead to more data collection until saturation has been reached. (Corbin & Strauss 2008)

Following the inductive nature of GT analysis, I started off to find out 'what is going on' in the field in regard to nursing care and its electronic documentation (Strauss and Corbin 1998, Corbin and Strauss 2008). The data were generated from the brief incidents of observation, and consequently accumulated slowly. One observed activity, e.g., a morning wash lasting approximately twenty minutes, was only one event in the patient's care process. From the beginning of the data collection, separate, unattached observations accumulated, forming a preliminary structure (Lofland et al. 2006, Corbin & Strauss 2008). In the axial coding I used the paradigm model, where the structure and process were connected (Strauss & Corbin 1998, Corbin & Strauss 2008). The open coding and axial coding were closely connected together; Corbin and Strauss (2008, p. 198) make this connection

clear: 'As analysts work with data, their minds automatically make connections because, after all, the connections come from the data.'

Integrating the analytic process with GT and PO involved particular methods, which in this study were called 'methodological tools' (article IV). They include analytic tools (Strauss & Corbin 1998, Corbin & Strauss 2008). Significant methodological tools included observational protocol, jotting notes, microanalysis, use of questioning, and constant comparison, as well as writing and illustrating. The following table summarises the methodological tools which are discussed in article IV.

Table 2.   Methodological tools (summarised from article IV)

Methodological tool	Purpose	Main references
Observational protocol	To guide and trigger the data collection and analysis	Strauss & Corbin1998, Corbin & Strauss 2008
Jotting notes	To have a brief written record for later analysis	Lofland et al. 2006
Microanalysis	To give a closely scrutinised picture of an incident of observation	Strauss & Corbin1998, Corbin & Strauss 2008
Use of questioning	To bring into light hidden thoughts of the subjects	Strauss & Corbin1998, Lofland et al. 2006, Corbin & Strauss 2008
Constant comparison	To define the categories and integrate the structure and process	Strauss & Corbin1998, Corbin & Strauss 2008
Writing and illustrating	To deepen the critical and analytic thinking, and define the comprehensive pattern of the studied area	Strauss & Corbin1998, Lofland et al. 2006, Corbin & Strauss 2008

As discussed earlier in this chapter, the use of EPRs was a way of gathering data in this study. They were at the core of the study interest, providing information for that particular purpose. Also, tracing the history of a patient's treatment by reading

the EPRs gave me a deeper understanding of why, how and when things happened. (Lofland et al. 2006.) This was a way to fill the gaps in the information and disclose the continuity of care. In order to interpret the documents, I imagined myself in the position of a professional who needed information to proceed with the patient's care. Also, being in the field doing PO I was able to compare and verify the events that occurred with the written text in the EPRs. At a theoretical level, it helped me to consider and create concepts and categories.

The simultaneity of data collection and analysis was pivotal (Foster 2006, Corbin & Strauss 2008) but also time-consuming. It engaged me physically in the field, where what was happening needed immediate reflection and documentation. In order to gain a rich and comprehensive data set and find answers to open questions, I moved back and forth between the study site and off-site, as the analysis alternated constantly between induction and deduction. (Lofland et al. 2006.)

Simultaneous data collection and analysis allowed me as a researcher to go to a more theoretical level. I followed the theoretical sampling and let the analysis steer the process. Theoretical sampling helped me to understand the phenomena in the field and, as a result, generate various concepts. (Corbin & Strauss 2008.) In this study, I did the PO over the course of two years. After the first year I worked on the gathered data and analysis, gaining an understanding of all that had happened. Using theoretical sampling, the researcher collects more data wherever the analytical process leads (Corbin & Strauss 2008). When I entered the field in the second year, I found that there had been some changes in ward D; consequently, I collected more data in ward D than in the other wards. This allowed me to make more theoretical comparisons and to generate more diverse concepts.

Memo writing

Writing memos is a cornerstone of the GT method. I thus wrote memos at every step throughout my study, and many ideas, thoughts and finally concepts were captured by memo writing (Strauss & Corbin 1998, Corbin & Strauss 2008). Memos were often written as dialogues with multiple questions, thoughts, reflections and ideas (Bowen 2008). They were useful, e.g., when I tried to make sense of the data and when I built the storyline for the whole research process. Their length varied from short phrases to several paragraphs. Written memos enabled a return to the subjects and phenomena which I had noticed during the

observations. With the following example I focus on the weight of spoken language in the field. (Strauss & Corbin 1998, Corbin & Strauss 2008.)

Table 3.   Example of a memo.

I noticed that the functional action had crept into the spoken and written language, too. Some words were used in the daily language which I did not understand, since they differed from ward to ward. If I did not understand the jargon, how could the patient understand it? However, it was shocking to me when I realised that in conversation with a nurse I spoke jargon with her—and a patient who was present, looked confused! This was an alert sign to myself, a cause of self-correction of my behaviour as a researcher.

Note to the future: pay attention to the language in the environment but also to your own language!

4.3.3   Data integration

In the selective coding the goal was to integrate the data, define the core category and finally build the theory (Strauss & Corbin 1998, Corbin & Strauss 2008). In this phase I re-examined, re-organised and re-grouped the previously created categories which were analysed to the level of axial coding and presented in articles I, II and III. I continued to use theoretical comparison to discover the relationships within the collected data (Strauss & Corbin 1998, Corbin & Strauss 2008). The primary analytic question was 'what are the relationships between these data?' The first EPR data resulted in three categories: patients' voice, nurses' view and mutual view in the patient-nurse relationship. The comparison of the first and second EPR data contributed to the saturation and provided verification of the created categories. (Corbin & Strauss 2008, Morse 2012.)

As in the analytical stages, also while doing the theoretical sampling I could not know beforehand where the data would lead the process (Corbin & Strauss 2008). The initial plan, to compare the nursing care and related documentation, moved in a different direction because of the daily patterns in the wards and nurses' diverse documentation practices. In some cases, considering what was recorded in the EPRs in light of what was observed was a straightforward matter. However, in some instances the information in the EPRs was too brief or sketchy to allow

comprehensive comparison. By continuing the comparison of the observational data with both sets of EPR data, I noticed different styles in documentation. Some events were reported comprehensively, others were presented inadequately and still others were not documented at all. These were uncovered in the daily actions on the ward, when nurses or other professionals were reading the EPRs and were able or unable to find the information they needed. Therefore, I continued exploring the data and unveiled the category of documentation styles.

In order to integrate the documentary and observational data, I wrote memos, moving from descriptions to more theoretical conceptualisation (Strauss & Corbin 1998, Corbin & Strauss 2008). To gain clarity regarding the daily life in acute care, I continued by analysing all the data for process. This was a way to link the structural conditions to the whole patient care process on a theoretical level. (Corbin & Strauss 2008.) The observations revealed that many circumstances influenced the patients' care and its documentation and, consequently, the continuity of that care.

The data integration led to a situation where both close and distant relationships were revealed within the dimensions of time and space. The concepts (which were the created categories) showed in a different light depending on how close spatially or temporally the contents of the categories were to each other. (Corbin & Strauss 2008.) The conclusion of the data collection and analysis was the appearance of the core category: *the significance of proximity and timeliness for patient-focused nursing care and electronic documentation in acute care wards.* This study revealed three processes in acute care, which were intertwined with each other: the patients' endurance; patient care (including nursing care and care performed by other professionals); and using EPRs (including the manner of writing and reading EPRs and what exactly the written e-documentation contained). The created concepts are categorised with the dimensions of time and space, as illustrated in Figure 1.

Space

Close relationship   Distant relationship

Interface: Point of care   Broken   Documenting
dialogue   e-   interface: remotely
informing   documentation   *monologue*   and
working in   *sidelining*   retrospectively
collaboration   e-Documentation   *decision*   from the patient
collaborative   Patients' voice: *making without*
decision-   *patients' mood*   *negotiation*   e-Documentation
making   *patients'*   Nurses' view:
                       experiences   *patients' affect*
                       patients'   *patients'*
                       preferences   *experiences*
                                                                 characterising
                       Mutual view in   *the patients*
                       patient-nurse   *nursing care*
                       relationship: *patient's physical*
                       The agreement   *condition*
                       The exchange of
                       information   Documentation
                       Joint activities   styles:
                                                                 telegraphic
                       Nurses' view   *documentation*
                       (partly):   *cluster docu-
                       patients' affect   mentation*
                       patients'   *story writing*
                       experiences   *missing*
                       nursing care   *documentation*
                       patient's physical   *focused*
                       condition   *documentation*

Patients'
endurance:

experience of
being
hospitalised;
significance of
knowing;
meaning of
significant
others

                       Documentation   Non-timely
                       styles: reading or non-
                       focused   reading
                       documentation
                       telegraphic   Too little
                       documentation   or nothing to read

                       Timely reading

Time

Figure 1. Categories with the dimensions of time and space.

5 Findings

The generated substantive theory presents a reality of daily practice in somatic acute care. The revealed core category is *the significance of proximity and timeliness for patient-focused nursing care and electronic documentation in acute care wards*. It illustrates the importance of close and distant relationships within the dimensions of time and space as well as between the emerged categories of patient care and the electronic documentation. Patient-focus is the starting point of the theory. The concept of *patients' endurance* describes the patients' life situation when they are hospitalised. The *Interface* and *Broken interface* were the categories illustrating the actions in nursing care which had consequential significance for patients' endurance during the time in hospital and in their future lives.

The care of the patients and the documentation of that care are integral. They are prerequisites to each other, both necessary for patient-focused outcomes—if one of these two is lacking, the continuity of care will be lacking. *Using EPRs* consisted of the categories of *writing and reading EPRs* and *electronic documentation (e-Doc)* expressed by nurses. Through their documentation, the nurses relayed the patients' voice as well as articulating their own view. The category of *documentation styles* presents four patterns found in the written EPRs. *Writing and reading EPRs* reflected both proximity and timeliness, showing the pattern of when, where and how the documentation occurred, and eventually having consequences for the patients' care. Figure 2 presents the substantive theory. The arrows illustrate the direction towards the future. The close, deferred and distant relationships show the coherence and fragmentation of the wholeness. The oval illustrates the consequences which patients face related to their care in hospital.
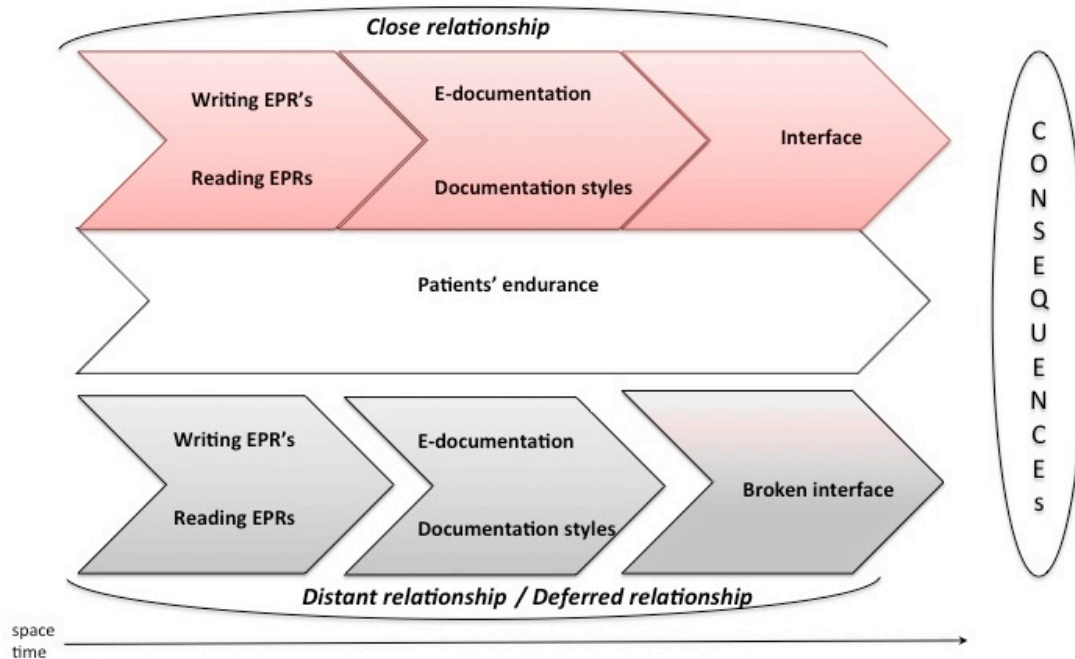
Figure 2. Substantive theory: *the significance of proximity and timeliness for patient-focused nursing care and electronic documentation in acute care wards.*

5.1   Concepts of the theory

5.1.1   Patients' endurance

The patients participating in this study were not in a life-threatening situation; however, the reason they were admitted to hospital could have meant a *turning point* in their lives. They arrived at the hospital either for planned (elective) or emergency treatment. There were patients who were aware that a surgical operation would improve or support their future health and life situation. There were also patients whose admission to hospital was urgent or sudden and their future was unknown. Consequently, their stay in hospital had a crucial meaning. For patients' endurance, they needed courage and encouragement to face difficult life situations. The observations uncovered phenomena which had meaning for patients' endurance: 'experience of being hospitalised', 'the significance of knowing' and 'the importance of significant others'. (article II.)

Experience of being hospitalised

In addition to the patients' personal life situation, hospitalisation became another stress. In acute care, the atmosphere, in general, is hectic. The wards I studied were not exceptions. The hospital environment was hard for the patients to endure. Their coping was dependent on the professionals' attitudes, overall skills and competence.

Although the prevailing culture of all the wards was pleasant and welcoming to the patient, the organisational rules, regulations or strictly scheduled rhythm defined the status of the patients. The imbalance of power, even if invisible and unspoken, was there, in the atmosphere.

In order to survive, these adult patients quickly developed their own ways to manage. They assessed the rhythm of the ward and behaviour of the staff and tried to conduct themselves accordingly. Many patients approached the staff members cautiously, trying not to bother them. This happened even though nurses tried to convince patients that the staff was there for them. (article II.)

The patients found themselves waiting for things; sometimes it was unavoidable, a result of the hospital routines or rules. There were occasions when weaknesses in the organisational system caused unexpected delays in patient care, e.g., cancelled operations or procedures. Even if such things were unavoidable, the patients felt powerless before the institution's policies (article II.)

Significance of knowing

For the patients, up-to-date and honest information was important, either in regard to minor daily patterns or when receiving crucial life-changing news. Being aware of their situation helped patients to feel empowered or in control of their life situation. 'Waiting' was related to patients' knowing. If there were delays in receiving information, it put their well-being at risk. Patients were aware that a completed treatment was only one step in the care process and would be followed by others. For example, learning about the results of a cancer operation changed the direction of patients' lives; as one patient sighed, *'Now the rhumba starts!'* Occasionally patients had to wait for information, even it was available and even if they were asking for it. *'Waiting for the unanswered information was painful, and nothing else seemed to be as important as knowing.'* Field diary. (II article.)

Importance of significant others

In all four wards, the visiting policy was flexible and significant others could spend time with their family members at their convenience. In my discussions with the patients and their relatives, they all emphasised the importance of being together. If the family members were not physically present, they were in the patients' minds and conversation. Patients worried about their loved ones and tried to minimise their own difficulties. In turn, the loved ones tried to support the patients by reducing the burden caused by the hospital stay. Patients usually took the initiative, asking if their relative could be present at admission, treatments or discharge discussions. Having a shared hospital experience with family members increased everyone's knowledge and feeling of security. (article II.) Regarding patients' endurance, the way patient care was delivered had consequences.

5.1.2 Interface

The interface was the core of the patient care. It referred to the close collaborative relationship between the patients and the professionals. Those were outcome-oriented situations where patients and professionals shared their time to make patients'—and their significant others'—future lives smoother.

Dialogue

The dialogues were deep discussions in various care situations where the patients freely expressed themselves and in which were reflected their life situations, opportunities and choices in their future plan. The professionals were able to have a deeper insight into patients' life situations and thus support individuality in patient care. Dialogues took place in natural conditions, at all stages from admission to discharge, including many daily events, e.g., doctors' rounds and intimate nursing care, such as in the shower. I witnessed situations where nurses were able to create an open atmosphere with their patients when the discussion was about a difficult subject and/or time was short. For example, the duration of my observations which covered dialogues and POC documentation lasted approximately 8-10 minutes at the bedside. During that time, patients and nurses or doctors were able to create a relationship with beneficial consequences for the patients. *After a discussion with the nurse regarding the patient's difficult life situation, the*

patient expressed her feelings and also her appreciation for what the nurse was discussing. Field diary. (article II, article III.)

Informing

Informing was a procedure with the purpose of providing patients new and individual knowledge regarding their care. It took place when patients needed information to prepare themselves for surgical or medical treatment or in order to be able to continue their self-care after leaving hospital.

Many safety procedures needed to be followed in order to have a safe surgical operation or administration of medication. The observations showed that nurses were detailed in their instructions, which included such points as 'what does this mean?', 'why is it important?', 'how do you do it' and 'when do you do it?' They ensured patients' understanding by asking about and repeating the instructions. While in hospital, patients expected to get new knowledge about their changed health situation. Patients and their family members appreciated every piece of information they received because they knew they would need that information at home. (article II.)

Working in collaboration

Working in collaboration applied to 'learning by doing' situations, in which patients were able to acquire practical skills for self care. The treatment in acute care could change patients' lives temporarily or permanently and in some occasions radically. Consequently, patients had to promptly embrace many new skills, such as ostomy or wound care, injection administration, measuring blood pressure or blood sugar and how to get out of bed. Nurses were guiding and coaching while patients were practicing. Working in collaboration was beneficial for the patients as well as for their family members who participated in nursing care events. Their involvement increased all the family members' self-confidence in the patients' self care. Working in collaboration allowed both patients and nurses to assess the progress that was being made and identify the possible need for more practice. (article II.)

Collaborative decision-making

The collaborative decision-making was aimed at enabling the patients to take responsibility for their own care. All the knowledge patients got at the hospital was important for their future goals and decisions. It contributed to patients' self-determination regarding their plans, decisions and goals for the future. Patients needed to re-arrange their life situation in many ways, e.g., social life or altered activities of daily living. In order to make this happen, open collaboration was of importance. Nurses asked patients' desires regarding their own care. In this way they gave patients more control over their life situations despite the hospital's highly regulated and scheduled daily life. (article II.)

5.1.3   Broken interface

In *broken interface*, the relationship with the patients and professionals either failed or caused miscommunication. This category consists of monologue, sidelining and decision making without negotiation. For the patients, such things caused confusion, misunderstanding and disrupted care.

Monologue

Monologues were 'one-way discussions' dominated by the health care professionals. They were detectable in language which was not easily comprehensible by outsiders, i.e., the patients. There were situations where patients felt they were lost and they were seeking interpretation. Even a good intention, such as explaining to patients their health situation, failed if the explanation was not understandable. I noticed that nurses were occasionally used as middlemen between the patients and the doctors, clarifying what difficult jargon or Latin terminology meant.

It also occurred that up-to-date information was known by nurses but not by the patients. Since the patients knew my nursing background, sometimes I was the middleman between them and the professionals, as reflected in the following queries: *'Do you know what is happening next?'* or *'I wonder if they already know if I could still go home today?'*

The monologue appeared at every stage of the daily pattern when nurses met patients, e.g., in the admission or preoperative visits where the interaction was

more like an interrogation; patients answered the questions without necessarily knowing their purpose. Nurses filled out some forms, asking patients questions and ticking the necessary boxes. In monologues, patients did not get information about their current health concerns and they could not even ask any questions. This happened in hurried situations as well, where patients were only listeners while nurses rapidly presented all the information they had to convey. In the end they might even ask: *'Do you have any questions?'* but in such a confusing situation there was no way for the patients to formulate them, even though they might have had many. (article II.)

Sidelining

In the category *sidelining*, the patients were placed outside the actions in which they were supposed to be the core persons. Sidelining manifested the imbalance of power; the institutional rules overrode the patient, whose dignity was diminished. In order to get their duties done, the nurses ran at the fast pace of the hospital. The staff's intention to do good for their patients was evident, and patients commented on and appreciated their friendly behaviour. However, when routines and tasks dominated, too often patients and their care were considered as merely more tasks among the others. I saw both conscious and unconscious objectification of patients in the behaviour of the staff. Moreover, there were actions that occurred in line with organisational procedures where the staff acted without realising how they behaved. A case in point was when a patient's privacy, even intimacy, was violated when one or a group of professionals approached the patients' bedside in the middle of care, such as morning washing or wound care. (article II.)

Sidelining was evident also in the way that nursing care was allocated. In the daily routines, patient care was constantly interrupted. Some of the interruptions were inevitable and even awaited, e.g., calling a patient to the operation or a CT-scan, or if something unexpected happened to other patients. However, such disruptions sometimes ended a well-started activity, such as private discussion or working in collaboration. Nurses were also assigned to many non-nursing jobs, which appeared in a certain order and had to be done, even if they caused disruptions, delays or discontinuities in patient care. *'After assisting the patient in the shower, it was the nurse's job to clean up the shower room. When she finished, then she could come and start the wound care… meanwhile, the patient was waiting.'* Field diary. (article II.)

It happened that patients were not involved in making decisions affecting their own care. There were patients who wanted to trust what the 'authorities' say and they accepted those decisions without question. For example, if the patients had a new diagnosis that caused anxiety and distress, they trusted the professionals' decision making.

Nevertheless, the decisions were not always communicated to the patient. Consequently, decisions made without thorough discussion and negotiation did not lead to desirable patient-focused outcomes. Even though there was an intention to work for the patients' benefit, the busy atmosphere and lack of time contributed to the professionals' rushing to the decisions, but neglecting the discussion with the patient.

Organisations have rules and schedules which are important for the flow of the daily routine. Patients were pointed to their beds and assigned to a nurse. Decisions in planning, e.g., the 'right bed for the right patient', required nurses' competence. For patient safety, one important aspect was infection control and in that regard there was not much to negotiate. However, many other decisions ruled by the culture were apparent in the daily language.

When patients left the hospital, decisions concerning their care followed them home. Not being part of the decision-making process caused puzzlement and consequently hindered the continuity of care. *'Patient was discharged and about to leave. Almost at the last minute, he asked if I knew what all these new medications were for.'* Field diary. (article II.)

5.1.4 Using EPRs

Writing and reading EPRs was a process which had an effect on all the professionals who took care of the patients and ultimately on the continuity of patient care (see article III).

Writing EPRs

Writing EPRs consisted of two categories: Point of Care e-Documentation (POC e-Doc) and Documenting remotely and retrospectively from the patient.

Point of Care e-Documentation (POC e-Doc)

Point of Care e-Documentation (POC e-Doc) signifies the incidents of using EPRs with the patients. It took place on doctors' rounds and in professionals' discussions with the patients, whether at the bedside or in offices. Availability of mobile computers made this practice possible.

For doctors, using mobile computers on the daily rounds was customary, and thus was unremarkable. The interaction between the patients and doctors went on smoothly; patients were able to participate in the discussion by bringing up their perspective on the care, with questions and comments. The doctors' share in the POC e-doc was mainly in planning the care and writing down their orders and guidance for further care. Access to the complete EPRs made decision-making at the bedside possible. For example, analysing lab-test results gave direction to the further care plan. After the round, nurses were able to re-read the written information and continue the patients' medical care accordingly. (article III.)

In the study ward D, nurses took mobile computers to the bedside as well. This usually followed one of two patterns. They had their computers concurrently on the doctors' round, writing down the turn of events. This supported the continuity of nursing care, such as in going forward with patient teaching from the facts which arose during the round.

Secondly, nurses took the mobile computers to the bedside and documented at the POC. They reviewed and planned care together with the patients and updated the information in the system, thereby increasing mutual understanding. Additionally, fixed computers were located in private offices, where, for example, discussions for admission or discharge took place. This gave an opportunity to use the EPRs at the POC. (article III.) The private offices also offered privacy, which was not always the case at the bedside.

Documenting remotely and retrospectively from the patient

Patient information originated at the POC. However, documenting in EPRs sometimes occurred in places which were remote from the patients. Fixed computers were located in nursing offices for nurses' use. This resulted in a pattern where nurses at the POC wrote on a piece of paper information to be documented further in EPRs on the fixed computer. The paper memo-notes contained information from many patients, such as to-do lists and other matters concerning what to document later in the EPRs. Leaning on the memo-notes not only delayed

the e-doc but also changed its style. Nurses needed to coordinate activities among the patients they were assigned (typically three to five). Also, the daily pattern of the ward, how the nursing care was organised, had an affect on the patient care and its documentation. (article III.)

The nursing offices were a centre of action, and consequently prone to constant disruptions. However, even nurses who were provided with the mobile computers were attracted to do their computer work in the middle of this action. Remoteness and delay in documentation increased disruptions in the continuity of care, unnecessary changes in the implementation of patient care and delayed or missing information. (article III.)

Reading EPRs

Timely reading

Writing and reading EPRs were inseparably interwoven together. However, in order to more clearly explain their patterns, they will here be reported separately. The observations revealed timely reading in two situations: before the professionals met the patient and at the POC. On both occasions, timely reading was beneficial for planning and making decisions concerning the patients' care. Timely reading occurred also in the silent end-of-shift reports in those wards in which this practice was used or under development. The on-coming nurses read the text in the EPRs as the first thing to do when they started their shift.

At the POC, patients could be part of the discussion when professionals reviewed the EPRs together with the patients. Additionally, the timely reading supported the simultaneous e-documentation which contributed to the accumulation of information. Patients were an important source of information by bringing their point of view to the discussion. My observations of timely reading revealed increased interdisciplinary collaboration as professionals read each other's documentation. For example, I discovered that not only did nurses read the other professionals' texts but the doctors skimmed nurses' EPR notes regarding the patients' care on the previous day. Thus, the EPRs showed a continuum, in which one documented incident or event was followed by another one.

Real-time reading improved patient safety by detecting information which had to be taken into consideration before the care could proceed. Those were, for example, previously documented risk factors recorded in the patients' EPRs. In

this EPR-system, a red button on the front screen indicated that risks were noted. The content of the risk list needed to be read and up-dated constantly. There were incidents when a timely reading revealed such potential risks as unsuitable medications, allergies or foreign bodies. (article III.) Figure 3 explains the simultaneous writing and reading.
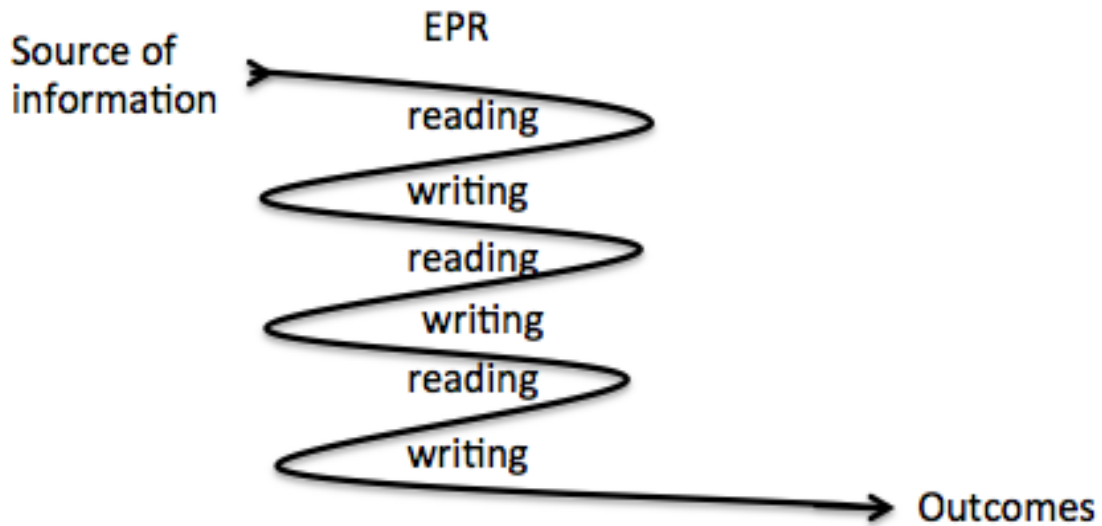
Figure 3. Simultaneous writing and reading at the POC

Non-timely reading or non-reading

Non-timely reading was retrospective, when there was time to focus on the patients' previous health history. Filling information gaps in the history by means of additional, later, reading was necessary in certain situations, especially if patients had co-morbidities. However, because of non-timely reading (or non-reading), patient care, scheduled appointments or discharge were delayed, sometimes leading to postponement or even cancellation of subsequent activities or treatments. This caused harm and disappointment for the patients and many extra steps for various professionals. Additionally, the fast-paced health care system could not afford to waste any appointments in their strictly-scheduled system. (article III.)

Non-timely reading or non-reading was revealed on occasions of direct care. One of those was in the administration of medication, where occasionally patients didn't receive their medication when scheduled, or at all. In the acute care setting, there were constant changes both in patients' health and accordingly in their care

plans. Even though the IT provided great opportunities for updating information, it was of no use if it was not read in a timely manner—or not read at all. (article III.)

Leaning on oral reporting at shift handovers sometimes resulted in a habit of the oncoming nurses not reading the EPRs in a timely fashion. They listened to what they were told, wrote notes on a piece of paper and proceeded accordingly. Not all essential information was reported orally, however, and even if the nurses knew where to find more information, they drifted to a situation in which the oral information they received was not adequate. (article III.)

Too little or nothing to read

In the pattern of writing and reading, parallel weaknesses appeared when there was too little or nothing to read. Compared to the non-reading habits described above, this was a case of needed information being sought but not found. In this mode— as in the previous category—all staff members were not on the same page. This caused complicated situations, near misses and misunderstanding in the care, with potential risks for patient safety and well-being. It disrupted the care path and even led it in a different direction. Patients were confused, for example, if they needed to fill information gaps about their care for the staff. A case in point was one patient who was repeatedly brought the same pain medication even after it had caused him side effects—because it was not documented. (article III.)

The habit of *'not documenting'* was frustrating to the staff, but it still occurred. Nurses occasionally asked me questions, if I knew or saw something that happened during my observations. The *not documenting* habit caused confusion, anger, additional work, questions and phone calls for those who had to find the missing information. (article III.)

Patients were discharged or transferred quickly from one care facility to another. Written documentation for the receiving ward was of importance in order to take care of the patients. When it was missing or not complete the receiving ward had to call back to the sending ward and ask for more information in order to continue patient care. Additionally, there were situations when something in the care was completely left out. For example, instructions for complicated wound care or information about patients' medication were missing. (article III.)

5.1.5   e-Documentation

Patient's voice

In EPRs, nurses were the messengers of the patients' voice, by describing expressions patients were using. This category consists of three subcategories: patients' mood, patients' experiences and patients' preferences. (article I.)

Patients' mood

In the patients' daily life, many incidents occurred and emotions were felt which were due to changes in their health condition. Nurses documented what kind of feelings good or bad news caused in the patients. Patients' emotions also revealed aspects of the quality of hospital care. The hectic acute care setting resulted in difficulty for patients. For example, nurses recorded patients' feelings about the hospital ward as an environment, as well as the impact of delayed or cancelled care. In this way, nurses expressed to other professionals an image of the patients and the patients' feelings about their life situation. It gave the readers an idea of what to expect when they met the patients. Here is an example of an outcome from the patient's perspective: *'... is herself also surprised and happy for her recovery'*. (article I.)

Patients' experiences

Since all the wards were representative of the somatic area, 'voice' was a way to describe the patients' physical state. Nurses explained in detail, using the patients' own words, the level and nature of pain and the characteristics of various symptoms, such as what had first happened, how they appeared, when and what kind they were, etc. Similarly, nurses expressed the patients' assessment of their coping in various situations. At the same time, documented experiences offered an evaluation of the patients' care during their time in hospital. If/when reported in a timely manner, this information was helpful for the other professionals. Since the electronic documentation is ready to read immediately upon being written, professionals who were involved with the patients' care, even if not physically present, were able to read about the patients' situation, and intervene accordingly, e.g., in planning further care, if needed. (article I.)

Patients' preferences

Nurses reported how the patients expressed their own will or desires concerning their care, from small choices in daily living to decision-making for their future life. They also told the readers how the patients wanted to be taken care of. Their documented voice also revealed the subordinate status of the patients and their self-confidence sounded weak. For example, the patient's wish might be for one thing, but the power of staff decision-making was stronger. Patients might have had reasons for their preferences or decisions, but so did the professionals in the hospital. If there was a disproportion of the preferences, nurses documented the patient's voice whatever the outcome was. Example: *'… is disappointed by the delay of the operation.'* (article I.)

Mutual view in patient–nurse relationship

Nurses documented in the EPRs the collaborative relationship between themselves and the patients. Those relationships arose from dialogues, talks, teaching-learning sessions between patients and nurses, or united actions which were discussed or negotiated together. They were categorised as *the agreement, the exchange of information* and *joint activities.* (article I.)

The agreement

Nurses documented agreements which had been made with patients. They were related to the activities of the care and situations where both parties were making decisions. The information was short but it showed the reader what had been agreed with the patients and the reader then knew how to proceed with the care. The following presents an example: *'we agreed that the patient is fasting after midnight.'* (article I.)

The exchange of information

By transferring the exchange of information to the records, nurses brought to light both patients' and nurses' collaboration in patient care. It gave information on both the patients' and the professionals' viewpoint. The information was useful in

understanding the patients' life situation and thus helped planning and implementing the care. (article I.)

Joint activities

Joint activities indicated the events in nursing care where both patients and nurses worked together in order to increase patients' self care. Documenting the joint activities gave the reader an idea as to if or how the patients' self care had progressed. It also helped the on-coming nurses know how to continue with the patients' care. (article I.)

Nurses' view

The category nurses' view displays the nurses' perspective on the care. Written text described nurses' observations; reports on the care, such as situations and incidents, were included. This category described nursing documentation more objectively, from a position 'outside the box'. Nurses wrote observations and conclusions based on their interpretations. The documentation was informative and evaluative; however, since it was taken out of context, it was not possible for the reader to know in which kind of situations the documentation was done. Therefore, the reader could only interpret the text and act accordingly. (article I.)

Patients' affect

Patient's affect described patients' feelings, documented from the perspective of the nurses. Feelings were illustrated by the professionals, rather than involving patients in the writing. For the reader, it was not always clear what the focus of the documentation was or in what kind of facts the descriptions were grounded. The patients' feelings remain uncertain, for example, when writing about a patient being 'depressed' without explanation. In turn, patients' deep emotions were described as a narrative giving detailed information about a patient's behaviour. Nurses documented patients' feelings that they had assessed: *'discussed a long time with his wife on the phone and was more relaxed the rest of the night'*. (article I.)

Patients' experiences

Nurses' interpretations of patients' experiences varied from the deep description to the superficial glimpse. For example, in explaining one patient's sleep, it was simply documented 'slept well'. In another case, involving a painful wound, there was detailed information on the experience, such as describing the pattern of pain from its origin to the outcome of its relief. *'22.30: Pain on the wound. Received [xx] mg of [yy] po. 23.10. Helped. 23.40. Sleeping.'* The previous example was based on the night nurse's observation, which was both the evaluation and the outcome of the pain control. The information was short but accurate. However, there were also occasions when the reader remained uncertain about the source of the report. (article I.)

Characterising the patients

Characterising the patients in the documentation related to the patients' personality, their behaviour patterns, their diagnosis or their status. The personality was labelled with many words, such as 'quiet', 'shy', 'nice' or 'chatty'. The way patients appeared or acted gave them a specific status. For example, the word 'self-reliant' was used as an assessment but also as a label: *'Self-reliant, no special needs.'* Additionally, if the patients' situation was challenging or they needed more attention than usual, nurses spotlighted the situation, as seen in this example: *'Quite a drug addict… nothing seems to help.'* (article I.)

Patients' physical condition

A great part of nursing care is observation, which was seen in EPRs. Nurses documented assessments and the effect of treatments on patients. Documentation showed the cause-effect pattern; nurses evaluated patients' condition by comparing the previous physical state to the current situation, which gave a view to the direction, either progress or deterioration, of the patients' state. Patients were sometimes reduced to body parts, e.g., *'arm is better today'*. For the reader, this showed only part of the patients' situation. (article I.)

Nursing care

Nursing care in EPRs appeared as documented goals, actions, interventions and treatment. Nurses described the actions either in detail or using only a few words. When writing about nursing care, nurses listed completed tasks such as 'medication given', 'wound care done' or 'discharge papers given'. With an evaluative writing style, they were able to capture the patients' state, nursing interventions and the progress of the care, related to the nursing care. Part of the nursing care was organising or coordinating the practicalities of the patients' daily living, such as future appointments, meetings with other professionals for family members, etc. Family connections were also documented in regard to coordinating the continuity of care and involving the relatives in the patient's care. *'Wife takes care of the patient at home.' 'Wife has been taught about wound care.'* (article I.)

5.1.6   Documentation styles

The EPRs uncovered complex documentation styles. Nurses adopted their own approaches to the writing, ranging from highly individualistic models to quite plain or routine. The categories revealed were *telegraphic writing, story writing, focused writing* and *missing writing*.

Telegraphic writing

Telegraphic writing consisted of short statements, pieces of information or listed tasks. The observations revealed that telegraphic documentation occurred in various situations throughout the patients' stay, either at the POC or retrospectively, remote from the patient. This mode was written basically in the passive voice and lacked pronouns (article I). There were examples of informative pieces of documentation; however, the clarity of this mode was generally weak, not giving enough information for the intended explanation. The perspectives remained narrow. Writing in passive left unspecified to the readers who the actors of the occurrence were. Under this category, the information varied; it was descriptive, evaluative, comparative and goal-oriented. For example, goals were documented with a word or two: *'Goals: no pain, enough information.'*

Cluster documentation

In telegraphic writing, *cluster documentation* refers to cases where many incidents in patients' daily occurrence were written together. It was mainly written at the end of the shift or when many routine events were indicated, making the text a condensed summary. From paper notes or from memory, nurses summarised the events of the shift with descriptive words or sentences using a telegraphic style. Cluster documentation ignored events in patient care that could have had relevance for the continuity of care. Here is an example from one shift's documentation: *Feels well, better than yesterday. Bowel movement ok. No pain. Takes care of herself self-reliantly.*

Story writing

The category called story writing exemplified narrative text in the EPRs. The information contained important aspects such as descriptions, evaluations and comparison of the patients' situation in the daily nursing care. There were also some special incidents which needed to be written in detail. Those were reports highlighting divergent or abnormal incidents, e.g., falls, complications and safety deviations. The written stories were verbose, comprising a huge amount of text but lacking logic and making the text overwhelming to read. The story line was hidden in the narrative message. Even though the text could have been patient-focused and contained an essential report of the patients' care, it was challenging for the reader.

Focused writing

Focused documentation reported just the essence, consisting of description, evaluation and progress of the care. This mode revealed issues which dealt with the patients and which were momentous for them. The written text was selective in bringing out only the issues which had significance for other professionals involved in the patient's care. Focused documentation was goal-oriented and thus it usually reflected an evaluative style of writing. The illustrated incidents were relatively brief, but they gave an accurate and clear picture of the heart of the matter.

Missing writing

Missing writing meant neglected information, i.e., gaps which were found by reviewing the EPRs. Daily observations revealed the reality of what was missing and what the consequences were. There were important incidents in the patients' care but they were not documented. Nurses who needed the missing information sought it in vain, wasted their time and felt frustrated. (article III.) The missing documentation brought patient care to a halt and thereby broke its continuity, with serious or even harmful consequences. There was missing documentation in every phase of the care process. Table 4 summarises the documentation styles.

Table 4. Documentation styles revealed in the observations and review of the EPRs (see also articles I and III).

Category	What and how	When and where	Consequences
Telegraphic writing	Lists of tasks Statements Descriptions Short comments No pronouns Patient active Patient distant Nurse passive Evaluative Non-evaluative Goal-oriented Comparative Task-oriented Patient-focused	POC Retrospectively During the shift At the end of the shift (simultaneous concurrent remote retrospective)	Information varies from clear to unclear Does not give the whole picture Missing factors Unclear who is acting Narrow perspective
* cluster writing	Many events of the patients' care written at the same time	Retrospectively, remotely At the end of the shift	Text is condensed Does not give the whole picture. Ignored, neglected information
Story telling	Explanations Descriptions Verbose Highlighting something Repetitious Rich	Retrospectively During the shift At the end of the shift	Can give a wide picture Does not give the whole picture. Missing factors Weak clarity Unclear who is acting Narrow perspective Focus on non-essentials Difficult and overwhelming to read.
Focused writing	Explanations Descriptions Highlighting something In focus Accurate	POC Retrospectively During the shift At the end of the shift	Gives a comprehensive picture. Supports the continuity, safety and quality. Can be focused on a narrow perspective
Missing documentation	Missing data Neglected information Not found in documentation	In all phases of EPRs	Important information does not exist and does not guide the care of the patient and the continuity of the care. Creates risks.

5.2 Relationships among the categories: patients' endurance, nursing care and using EPRs

The relationships among the patients' endurance, nursing care and using the EPRs were revealed in the dimensions of close relationship, deferred relationship and distant relationship. All of them had consequences for patients' endurance. They are archetypes with variations because of the complexity of daily life in acute care.

5.2.1 Close relationship

Patients and nurses shared their time when they focused on significant incidents in the patients' care. *Interface* was outcome-oriented. *POC e-Doc* provided a way to produce updated information. The information and insights could be shared with all who were present in the situation. It enabled transparent and genuine patient-focused documentation. My observations revealed close relationship between these two categories, as narrated in the field diary:

> '… that I call a dialogue; both patient and her nurse discussed the current situation. There were three parties in the event; patient, nurse and the mobile computer, all in perfect harmony.'

Not all sub-categorised aspects of Interface could be documented at the POC. For example, working in collaboration required both patients and nurses to be active, with 'hands on'. However, there were opportunities for supporting the patients' involvement in their own care and thus improving their independence (being self-directed).

Working in collaboration. On the morning of discharge, the nurse attended to patient's morning routines. It was a good opportunity to explain how to deal with the wound drainage, such as emptying or closing it. Later, she returned to the patient to ask if she would manage with the drainage at home. Patient felt confident, because of the detailed guidance.

In the *e-documentation, patients' voice* was heard and they were present. The *mutual view in patient–nurse relationship* uncovered documented shared discussion, dialogue and agreed decisions. In the category of nurses' view, presence allowed prompt observations of the patients' situation. Nurses' view also included patient-focused care, which was interpreted by nurses.

In close relationship, the POC e-Doc enabled *focused writing* since the patients could participate in their care processes. The written text was relatively short, but it included the essential information. Nurses also complemented the documentation later, both at the bed-side and in the nursing office.

In close relationship, using *telegraphic writing*, nurses also documented comprehensive descriptions and plans of the care. The following example is from the field diary and the EPR, illustrating a patient's night experience and the nurse's documentation of the same event.

PO: Discussion with the patient.
´Patient told me this morning that she felt very restless last night and slept only couple hours. She still felt overrun by the medications she had received early evening, which had caused her restlessness.´

EPR: The night nurse's documentation:
´Restless feeling, sleeping difficulties; medicated. Walked on the corridor early night. Says slept only couple hours. No pain though.´

Figure 4.   Comparison of patient's experience and telegraphic writing

Timely reading. The precondition for timely reading was the availability of previous documentation. Professionals used EPRs by reading the information before seeing the patients or meeting the patients at the POC.

Finally, the concept the close relationship is shown in the following figure. The concepts aligned upright on the continuum of time and space illustrate the simultaneity of the actions close to the patient.

Interface

POC e-Doc

Patients voice

Mutual view in
patient–nurse
relationship
Nurses' view

Focused writing
Telegraphic writing

Timely reading

...Before POC   At the POC

Time

Space
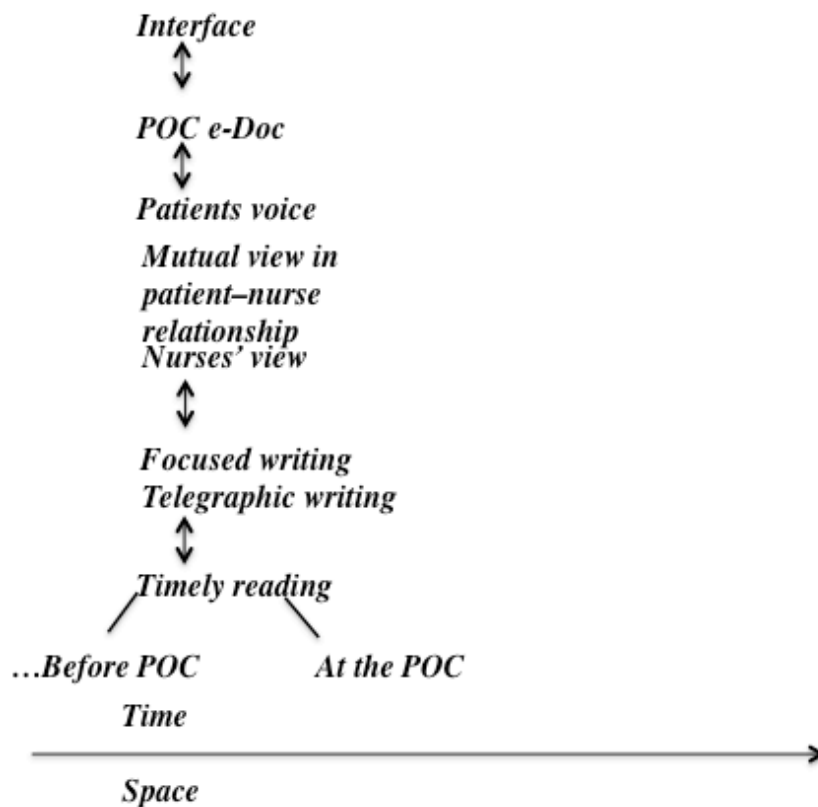
Figure 5. Close relationship.

5.2.2 Deferred relationship

The deferred relationship began in a way similar to the previously presented close
relationship. However, in a deferred relationship more delays and disruptions
started to appear. For example, even a well-begun 'working in collaboration' could
have remained unfinished due to disruptions. (article III.)

Documenting remotely and retrospectively from the patient. An increase of space and time
between the POC and the writing changed the nature of the documentation. The
information at the POC was first recorded on hand-written notes and later
transferred to the EPRs. This meant double documentation. Also, the longer they
waited, the greater the likelihood of further disruptions, breaks and time delays
before the documentation in EPRs took place. If nurses documented on the fixed
computers located in the nursing office, 'to and fro' movement between the office
and patient occurred.

'I stayed with the nursing student for wound care at the bedside. While we were cleaning the wound, nurse popped in the room asking patient about her medication order…'

Patients voice was transferred to the EPRs, but there was a delay and space between the POC event and its documentation. Nurses were able to capture patients' voice, in general, with brief expressions. Similarly, in the *mutual view in patient–nurse relationship*, the information was based on the events in the interface, and the documentation followed a similar pattern as in the *patients' voice*.

In the nurses' view, nurses wrote the information of POC observations of the patients' current situation retrospectively and remotely. The delay and space between the POC and the writing changed the documentation, and there was more of the nurses' own interpretation in the written text.

In the deferred relationship, nurses and other professionals used *telegraphic writing*. A few words of the POC event were documented. Nurses still captured the events by writing the evaluation and patients' own expressions but somewhat incompletely. Cluster writing illustrated texts which were normally documented at the end of the shift, as a summary of all or many events of the shift, and written with few words. *'home today, satisfied with the care'; 'social worker tomorrow, wound ok.'* Cluster writing accompanied *missing writing*, revealing gaps in the information or situations in which nothing of the POC events were written at all.

Story writing. Nurses documented remotely and retrospectively the events which occurred at the POC. The texts were long and the important information disappeared in the long reports, even though it was there. Sudden incidents, e.g., near misses, or patient falls, were documented with this style. Nurses concentrated on writing those incidents as accurately as possible.

Since timely reading was dependent on previous documentation, it was not always possible. Following the habit of *non-timely reading or non-reading*, nurses leaned on the received oral information. They wrote down information from the oral reports on scratch-paper and kept it as their information source. They read EPRs later retrospectively, but there were occasions when something happened and reading was either not possible or it was too late to support the continuity.

Too little or nothing to read. The documentation in EPRs is insufficient, or incidents are not documented at all. The EPRs did not contain the needed information. The differences of the categories 'non-timely reading or non-reading' and 'too little or nothing to read' reflected the perspectives of the reader and the writer. However, both of them included similarities in regard to their consequences. Both resulted in

situations where patient care was compromised and patient safety was at risk. (article III.) Figure 6 is a diagram of deferred relationship.
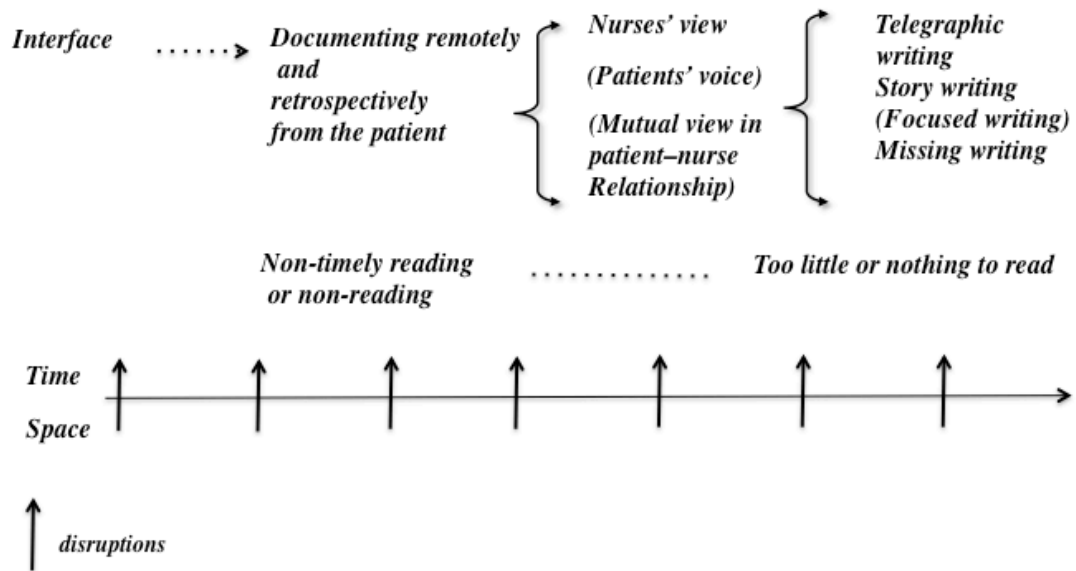
Figure 6. Deferred relationship.

5.2.3   Distant relationship

In *broken interface*, nurses' time and work was divided into many tasks and patients. Patients as individuals were not at the focus. The professionals' point of view was dominating and there was a power imbalance between patients and staff.

Documenting remotely and retrospectively from the patient. At the POC, I observed a pattern similar to the one described earlier in regard to the deferred relationship (i.e., from hand-written notes to the EPRs). The time when the documentation occurred was after nurses completed other tasks (article III). It also happened that the 'right time' never appeared. The place where nurses documented was distant from the patients.

Nurses' view ruled the documentation. Nurses wrote the information of POC observations of the patients' situation. Patients were outside of the context. The time delay and space between the POC and the writing changed the documentation, and the written text reflected the nurses' own interpretations. Patients were reduced to body parts or labels. Also, hospital slang and jargon

showed in the texts, as well as in the talk. The main style of documentation was *telegraphic writing*. A few words of the POC event were documented, and the rest of the daily events were clustered at the conclusion of the shift. Similarly, as in the deferred relationship, missing writing was noted, since important information was not documented. Nurses used *story writing*, documenting long reports, but the viewpoint was more the professionals' or the organisation's than the patients'.

When the documentation showed fragmented reports of patient care, lists of tasks without verification (of how or why) or evaluation, it did not provide enough information for the continuity of care. Also, writing a single sentence about the patient did not necessarily mean anything. The following instance uncovers the issues in the broken interface.

PO

I discussed with the patient who was admitted to the hospital a day before his minor surgical operation. He was lying on his bed wondering what is going to happen. Neither of us knew. I left the room for a while and returned later. I was the only one who had seen him all afternoon and he asked again if I knew what was going to happen. He mentioned that he could have spent the night at home. Now he does not know why he is here...

e-documentation

Nurse's view

Getting along in his room by himself.'

Figure 7. Example of broken interface and e-documentation

Non-timely reading or non-reading was dominant in the distant relationship in a similar way to that described above in regard to the deferred relationship. Some professionals seemed to believe that reading or not was optional. Nurses relied on information from their scratch-notes, not documented texts. Subsequently, anyone seeking information about the patient found that there was too little or nothing to read. The distant relationship is shown in the following figure.
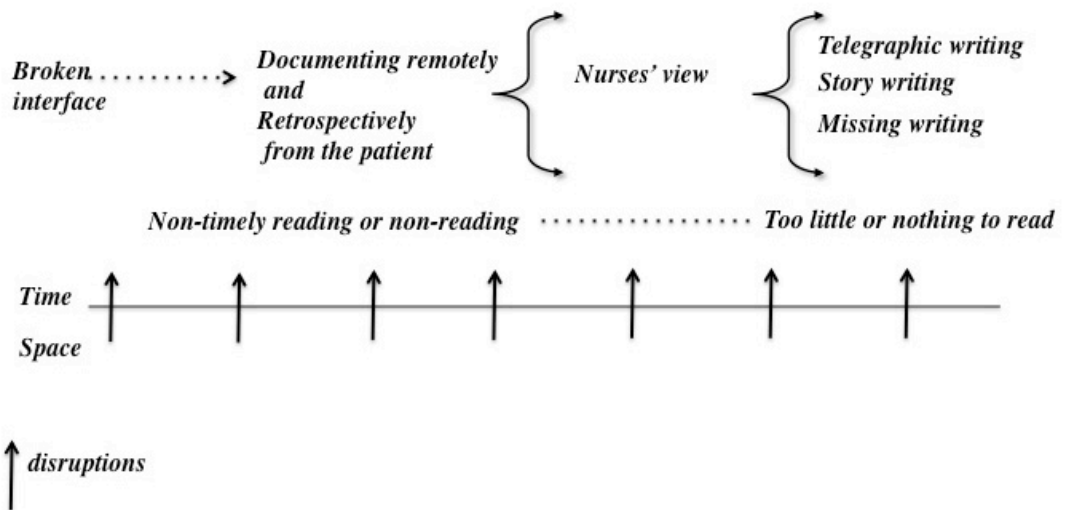
Figure 8. Distant relationship

6   Discussion

6.1. Trustworthiness

In this study I have followed the GT method of Strauss and Corbin (1998; 2008). After reading the evaluation criteria presented by Corbin and Strauss (2008), I turned to evaluate the theory by using the criteria suggested by Charmaz (2006). Her generated GT method differs from that of Strauss and Corbin; however, Juliet Corbin (2008) regards Charmaz's evaluation criteria—credibility, originality, resonance and usefulness—as significant. (The latter, 'usefulness', I discuss in 7.2. 'Relevance of the substantive theory'.) Therefore, I follow the criteria of Charmaz (2006) and also complement them with the criteria of Corbin and Strauss (2008).

6.1.1   Credibility

Credibility indicates that the theory is believable and trustworthy (Corbin & Strauss 2008). Many facets must be considered when looking at the credibility and trustworthiness of this study process. A challenge for a novice researcher was the data collection methods used in the grounded theory approach. In general, the majority of grounded theories have been created by using interview data (Sandelowski 2002). Credibility in this study is reviewed from the viewpoints of grounded theory and the data collection methods, PO and the analysis of documentary data. Rigorous and transparent reporting of the researcher's experiences is significant for the 'trueness' (Lofland et al. 2006) of the study.

Ethnography is a discipline which places a strong emphasis on PO. Even though this study is a GT using PO and analysis of EPRs as a data collection method, a system of rules and regulations similar to that applied in ethnography was used in the field (Strauss & Corbin 1998, Charmaz & Mitchell 2001; Charmaz 2006, Lofland et al. 2006, Corbin & Strauss 2008).

As researcher, I was the 'instrument' of design, data collection, and analysis in the study (Polit & Tatano Beck 2012). Consequently, all the steps throughout the study required reflection about the credibility. In every step my aim was to be

reflective and apply self-correcting actions rigorously (Morse et al. 2002). Being reflective, I tried to be aware of my own preconceptions by challenging and questioning my own thinking (Foster 2006).

The starting point for conducting this study was my interest in developing electronic documentation, from the viewpoint of patients in acute care. The interaction between PO as a data collection method and the analysis using GT required my commitment to the field (Strauss & Corbin 1998, Lofland et al. 2006, Corbin & Strauss 2008). Background knowledge in the area can be beneficial for the researcher (Bonner 2002; Mulhall 2003). I had expertise in nursing and, thus, certain phenomena were easy to comprehend. For example, when I was observing a nurse who assessed the patient's physical status, I understood right away what the nurse meant when, after the assessment, she posed specific questions to the patient. Also, since I was aware of what was going to happen next in the patients' care processes, I was able to make appointments with the nurses, e.g., when they were going to discharge a patient. This kind of tacit knowledge would not have been available to an observer without the familiarity in nursing. As a nurse, I assumed that I could better understand the situation of the patients (Savage 2000) and thus could have a close relationship with them. Also, when I was doing theoretical sampling, familiarity with the subject led me to the places where proper data could be collected.

However, nurse researchers' expertise may also have disadvantages. The nurse researcher can become 'blind' and not be able to see behind the daily routines; because of this, many important issues might be left behind. (Bonner & Tolhurts 2002.)

The fact of being observed may change the behaviour of what is being observed. This phenomenon is called the 'Hawthorne effect' or the 'observer effect' (Mulhall 2003, Monahan & Fisher 2010); it is an important issue when assessing the credibility of a study. Having a nurse researcher doing fieldwork with them may have changed the behaviour of the participants, both patients and professionals (Bonner & Tolhurst 2002), due to the fact that I had knowledge of the context (Bonner & Tolhurst 2002; Mulhall 2003). Some researchers say that the Hawthorne effect is overemphasised (Mulhall 2003; Monahan & Fisher 2010, Bloomer et al. 2012) and that participants soon forget that they are being observed (Mulhall 2003). I considered that I myself was responsible for creating circumstances in which the Hawthorne effect would be minimised—e.g., I wore the hospital uniform so as not to obviously differentiate myself from the staff. I was openly a researcher but my intention was not to remind the busy staff that I

was there. Even though I had access to do my research in the chosen wards, I quietly stepped aside if I noticed that someone did not feel comfortable with my observations. (Mulhall 2003.)

Research sites

Choosing the research sites was a result of negotiation with various interested parties, such as my supervisors in the university, administrators and ward managers in the hospital district, and the doctoral students' forum. The leading criterion was an interest in having an insight into patient care and its electronic documentation in acute care settings. The four wards chosen for this research, having their similarities and differences, represented my interest. In GT, collecting data from diverse sources gives strength to the research and thus using the different research sites enhanced the credibility and saturation. (Strauss & Corbin 1998, Bowen 2008, Corbin & Strauss 2008.) Using only one ward would have given too narrow a scope to the subject.

Time of the data collection and analysis

I collected the data in the years 2007 and 2008. The division of the data collection into two phases was valuable and even necessary for several reasons. I had time to reflect on, organise and discuss the gathered data and not rush to conclusions too soon. Moreover, when I returned to the field in the second year, changes in patient care and documentation had occurred (more in one of the research sites than the others). The researcher does not know at the beginning of the process where to collect the data. Therefore, when I started to generate concepts which needed more verification and insight, I ended up collecting more data in ward D. (Strauss & Corbin 1998, Corbin & Strauss 2008.) Theoretical sampling occurred throughout the process. Additionally, the data started to saturate in the three other wards, but this one ward (D) was an exception (Strauss & Corbin 1998, Bowen 2008, Corbin & Strauss 2008.)

Informants and data sources

The patients were the key informants in this study. The study focused on patient care and its documentation but without excluding the other elements in the environment (Lofland et al. 2006). All the collected data contributed to the viewpoints of the study for the purpose of verifying the credibility (Strauss and Corbin 1998, Hutchinson 2000, Kaunonen 2000, Corbin & Strauss 2008). Asking clarifying questions, e.g., from the patients or nurses, about any uncertain aspects was part of the PO; this was also beneficial in increasing the credibility. I asked questions about incidents either at the time they occurred or afterwards. The administrators, such as ward nurses and directors of nursing, accommodated the study by allowing me to ask them clarifying questions, e.g., about ward policies, decisions or organisational protocols or programmes. For this purpose I used both interviews and e-mail. While I was observing the events, I tried to be sensitive and find the proper way to be present, whether by simply following the event, participating in the discussion or being fully 'hands-on' in the action.

The original plan for the PO was to use a tape recorder during the observations. However, it was annoying to the participants and to me as well. Also, I noticed that using the tape recorder gave a narrow perspective, since I could only capture the discussion and the voice, but not the visuality, atmosphere or environmental issues. (Lofland et al. 2006.) Jotting down notes seemed to be more convenient. I jotted my notes out of sight of the action, and transferred them to the computer at the latest on the same night after the event. In the field, I tried to act as naturally as possible and registered the events in my mind carefully. (Lofland et al. 2006.)

In this study, the inductive approach aimed at collecting data openly without any pre-set assumptions. However, my background may have had an effect. Nevertheless, the key interest of the research guided the data analysis. There was a constant interplay between induction and deduction that engaged the constant comparison in every phase of the research. (Strauss & Corbin 1998, Corbin & Strauss 2008.)

I regarded microanalysis as a valuable tool to increase the credibility of this study. Especially in the beginning, during the data collection, using microanalysis helped me to uncover diverse minor issues, which appeared to be crucial for the whole research project. When I discovered something new emerging in the field, I returned to it to do microanalysis. (Strauss & Corbin 1998, Corbin & Strauss 2008.) In turn, in order to collect the data sensitively, it was important to know when to discard the minor issues (Allan 2003). To do this, I needed to critically evaluate my skills and interpretations.

Because of the complex daily life in the acute care wards, and an increasing amount of data, an organised pattern for how to do the observations and analysis was crucial. The analytic tools presented by Strauss and Corbin (1998; 2008) were an invaluable aid for coding and patterning the data. PO mandated additional protocols, which I identified as methodological tools. The tools are presented in article IV and I considered that using them was crucial for the credibility. (Strauss & Corbin 1998, Lofland et al. 2006, Corbin & Strauss 2008.)

The simultaneous data collection and analysis involved a constant back and forth movement to and from the research site. While I was doing the PO, my intention was to increase the credibility with a constant and timely writing pattern. Hence, an effective record-keeping and documenting system was crucial. (Strauss & Corbin 1998, Lofland et al. 2006, Corbin & Strauss 2008.)

Writing memos and field diaries was helpful in recognising gaps in the data and proceeding to more data collection. Written memos gave an insight into theoretical and practical issues and returning to them gave perspectives for verifying the information. (Strauss & Corbin 1998, Lofland et al. 2006, Corbin & Strauss 2008.)

Making diagrams also enhanced credibility in the study. They were an integral part of the study, serving as powerful tools throughout. Since the data in the acute care situations were complex, drawing diagrams gave visual perspective to the events. (Lofland et al. 2006.) They were also important for integrating the data and revealing the relationships between the structure and process of the data and building the theory (Strauss & Corbin 1998, Charmaz & Mitchell 2001, Corbin & Strauss 2008).

For the purposes of the study, EPRs were a significant data collection source, along with the PO. Tracing back the information from the participating patients' EPRs was a vital part of the data collection and an every-day practice in the field. I reviewed the EPRs for three main purposes: first, to gain deeper insight into the patient care process; second, to understand the relationship between the nursing care and its documentation (see the Evaluation of the documents, below); and third, to increase the credibility. (Strauss & Corbin 1998, Lofland et al. 2006, Corbin & Strauss 2008.)

Evaluation of the documents

My nursing background facilitated an efficient review of the EPRs. I was familiar with the written language used in EPRs and this helped with their interpretation.

Therefore, I regard this familiarity as enhancing the credibility of the analysis of the EPRs. (Bowen 2009.)

As with PO, there are also disadvantages for the expert nurse as a researcher in analysing EPRs (Bowen 2009). When studying the documents, I could have been misled by the data to take the text as self-evident, e.g., from an organisational or nursing viewpoint (Finnegan 2006). Avoiding such traps, I weighed the data with critical questions, such as 'whose perspective is dominant here?', 'what if I should take care of this patient with the written information provided here?' and 'what kind of conclusion does the reader reach from these data?' When reading the EPRs, I kept in mind the patient-focused nature of the study. I put myself in the position of a reader who needs the information to learn more about the patient's situation and to know how he or she needs to be taken care of. I also asked the fundamental questions 'what, why, how, when, where, with what consequences' (Strauss & Corbin 1998, Corbin & Strauss 2008), which yielded deeper comprehension of the data. Article I explained the credibility of the data of patient-focused documentation.

As mentioned by Bowen (2009, p. 33), 'the documents are context-specific', so comparing the EPRs and PO was significant in improving the credibility of the study. The categories of the article (I) were compared with the PO data which were first presented in articles II and III. The aim of collecting the first documentary data was to define the concepts, which were discussed in article I. I compared these with the observational data and the simultaneous EPRs of participating patients with the intention of verifying the contents of the created categories and increasing saturation. While conducting this procedure, I found gaps in the existing findings. Therefore, with further data analysis I added an additional category, documentation styles, to the findings.

6.1.2 Originality

According to Charmaz (2006), the criterion of originality postulates the newness and freshness of the concepts generated. The substantive theory that was formulated provided new insight to the field of nursing (Charmaz 2006). The approach of the study involved the patients' experience but the analysis of PO and EPRs here focused on the field of acute care and with the chosen data collection methods it was possible to capture its reality. The complexity of the daily life on the wards was challenging to investigate. This was why I emphasised the main

structures of GT, i.e., simultaneous data collection and analysis with rigorous memo and field diary writing. (Strauss & Corbin 1998, Corbin & Strauss 2008). Adding interviews of individuals or focus groups could have provided a wider scope. However, there is much research available about the subject conducted with inteviews, and for that reason I decided to take a different approach. Also, the nature of PO is to be with the participants, and through intensive discussions with them the theory might have gained originality. (Charmaz 2006, Lofland et al. 2006, Corbin & Strauss 2008.)

6.1.3   Resonance

The substantive theory is propounded in four articles. The first three focus on electronic documentation as expressed by nurses (article I), the pattern of daily life in acute care settings (article II) and the process of writing and reading EPRs (article III). The purpose of all three of these articles was to reveal the data which 'portray the fullness of the studied experience' (Charmaz 2006, p. 182). While analysing the data, I met both 'liminal and also unstable taken-for-granted' (Charmaz 2006, p. 182) situations. As a novice researcher, I found it difficult to realise the differences between the analysis of PO or documentary data and interviews. It seems to be the case that much of the discussion in GT textbooks concentrates on analysing interviews. (Charmaz 2006, Corbin & Strauss 2008.) The fourth article concentrates on the methodological issues of PO. I was led to the subject of article IV by the realisation that there is a need for more information about using GT and PO together. My aim was to clarify important concepts, which are necessary for the combination of GT and PO. Nevertheless, I hoped to show that despite the similarities of analysing GT and PO, there are many important differences of which the researcher needs to be aware when conducting PO.

6.2   Ethical Considerations

The researchers' interpretation and ethical considerations are interwoven throughout the process (TENK 2014). The benefit for nurse researchers might be a good understanding of research ethics. They know from their background what being a patient's advocate means and how this influences the whole research project. (Munhall 2000.) Certain ethical principles in particular are significant in

nursing research. Therefore, as a patient advocate, it is necessary in all phases of the study to follow the ethical principle of 'beneficence' by doing good and protecting participants from any harm. (Grace 2006.) My precept in this study was ethically justifiable research performed according to good scientific practice (TENK 2014).

6.2.1   The approvals

This study had patients as key informants. Consequently, approval for the study was received from the ethics committee of the hospital district (R071018H). According to the ethical considerations, patients received information about the study, including their right to withdraw from participation at any time they wished. After receiving written and oral information, they signed the informed consent. (Medical Research Act 1999.) Additionally, the chief doctors of the participating units (also including the operating theatre) gave their permission after I approached them and provided written material about the study. The medical director of the hospital district approved the use of electronic patient records for this study since, based on the research protocols of the hospital district, no ethics committee approval was needed because there was no direct intervention in the patients' care.

6.2.2   Ethical considerations in PO

Access to the research sites

It was my responsibility to inform the other gatekeepers, including staff members in every ward, about the study, particularly my role as a researcher performing participant observation in the ward. I both provided written information about the study and spoke about it at staff meetings. Some difficult questions arose at several of these meetings in regard to nurses' willingness or reluctance to participate in the PO. The general answer for this concern was based on the fact that facilitating research in a university hospital district is a part of working in the system. (TENK 2014.) However, my concern was that in order to gain reliable data, nurses and other staff should take part voluntarily in the study and not reluctantly. Since this matter also touches on trustworthiness, I have already discussed this in the previous chapter.

Establishing rapport in the wards was part of successful access and therefore crucial to the study. Consequently, I tried to create as open a relationship as possible between the patient participants and all the staff members. Being honest about my background, my current situation as an observer and the study were important throughout the study process. (Aita & Richter 2005.) Even though I had provided the wards with information about the study, my behaviour in everyday life in the wards was important. There was a constant balancing of making the staff aware of my role as a researcher but simultaneously being part of the participants' activities. (Mulhall 2003; Aita & Richter 2005.)

At the end of the observations, I tried to elicit the participants' feelings about being observed. The feedback provided verification and tips for improvement in future observations. The verification is necessary for self-correction and further development of the qualitative research practices (Morse et al. 2002).

Approaching the patients

Based on my agreement with the ethics committee, all the patients were adults and capable of expressing their own willingness to be part of the study. Although all the study wards included patients who were seriously ill, no patients with life-threatening conditions were included in the study. The staff on the wards received advance information of the patient participation criteria. In every ward, suitable patients were identified by the ward manager or nurses. The staff's helpfulness, competence and professionalism in choosing patients were advantageous not only for me as a researcher but also for the patients. For example, if there were patients whose health situation was severe, the staff omitted those patients from the pool of potential participants. (Moore & Savage 2002.)

After the patients had been selected, I approached them personally, giving them a brief oral presentation and some written information as well. They became aware of the content and outcomes of the study, their rights of autonomy and right to withdraw at any time during the study. (Medical Research Act 1999.) After receiving the information, the patients made their decisions. The total number of patients who declined to participate was six (in ward D=3; O=2; C=0; U=1). Even those patients' attitudes were rather positive. Once we began, no one chose to withdraw. The ethical principles of 'beneficence' and 'do no harm' are essential in any kind of research which touches human beings (Aita & Richter 2006). It has also been discussed in the literature that participating in research can be a therapeutic experience (Lakeman et al. 2012, Paavilainen et. al. 2014). Participating

patients in this study showed their enthusiasm for being part of the observations. They were willing to discuss various subjects with me and also voluntarily introduced me to their family members. I perceived from this that they appreciated receiving extra attention.

Confidentiality

I was committed to complete confidentiality in all research situations (TENK 2014). When I used examples from the field in writing a research report, my choice was not to identify the wards in the text. This was a conscious decision, in order to protect the confidentiality of the research sites and all of the participants. This issue has been discussed by Lofland et al. (2006), who commented that the names don't add any extra value.

Challenging situations

Participant observers can encounter challenging situations in the field, which, according to Lofland et al. (2006), are more likely to happen than not. Such was the case in this study, too. Facing such challenges required being prepared for them. As a nurse, I was competent to evaluate ethical dilemmas and act accordingly. However, being an observer changed my role and on some occasions I needed to consult the cooperating nurses for advice. Naturally, patients sometimes turned to me—since I was there with them—asking questions which I was not allowed to answer (whether I knew or not). Being a patient advocate and protecting patients from any harm (Medical Resarch Act 1999, Munhall 2000, TENK 2014), I turned back to the nurses, explained the situation and asked them to help the patients. Trusting collaboration with the staff was crucial also for the patients' good. Having neither too much distance nor too close proximity with the patients and staff meant a constant balancing and thus reflective thinking (also in the chapter on Trustworthiness). At all times I needed to be alert to the fact that I was a researcher and therefore required to maintain a certain distance between my role and the reality of actual patient care (Kemp 2001.)

6.2.3   Ethical considerations in documentary data

In the information about the study given to participant research sites, patients and professionals, I also told about the EPRs being part of my study interest. I had access to both paper and electronic patient records. I had printed paper copies of the EPRs for data analysis. The patients' name was in the upper left corner. For the review, I cut their names off from the papers for confidentiality reasons. This also had the fortunate side-effect of eliminating a potential source of distraction. I kept the records in a locked place. (TENK 2014.)

6.3   Discussion of the substantive theory

6.3.1   Reviewing the findings

The core category of this substantive theory is 'The significance of proximity and timeliness for patient-focused nursing care and its electronic documentation in acute care wards.' Using PO as the dominant data collection method revealed three essential processes: patients' endurance, nursing care and using EPRs (both writing and reading). The substantive theory is discussed in light of these three processes, all of which are linked integrally to each other.

6.3.2   Patients' endurance

The findings of PO in this study indicated that the stay in hospital was a tumultuous experience for the participating patients. Many critical incidents occurred while they were hospitalised, leading to unforeseen changes in the patients' lives. Being in hospital itself was stressful and burdensome. Consistent with these findings, Baillie (2009) noted that the environmental and organisational culture had an effect on patients' well-being. Their dignity was dependent on staff behaviour and environmental factors (Baillie 2009). Also, Williams and Irurita (2004) found that interpersonal relationships had an influence on patients' survival. However, as Williams et al. (2008) concluded, patients can feel comfortable and secure in the hospital environment, if this has been made possible.

The observations showed that patients' well-being during the hospital stay was dependent on what they knew. They sought information by asking questions. They

also picked up on signals conveyed by non-verbal communication. They needed information both pertaining to daily updates in the hospital and in regard to managing their future care. According to Williams et al. (2008), the level of knowing increased or decreased patients' emotional comfort. For a short stay in hospital, being able to cope and feeling themselves safe were important. (Williams et al. 2008.) Patients need knowledge and understanding of their health situation in order to participate in their care. (Larsson et al. 2007.) Having knowledge is a prerequisite for self-determination, which is mandated in the Finnish Act on patients' right and status (1993).

The PO revealed the importance of significant others for the participating patients. The findings verified that adult patients are in need of family support in hospitals (Kanervisto et al. 2007, Salin & Åstedt-Kurki 2007, Mattila et al. 2010). According to the hospital policy, in the wards of this study the visiting hours were open or flexible, following the patients' will. Consequently, there was an open atmosphere for family members. Åstedt-Kurki et al. (2001) found that family members took the initiative in interacting with the staff, while in this study I observed that patients made an effort if they wanted their close ones to attend to the care, such as doctors' rounds or discussions with the professionals.

6.3.3   Close relationship

Interface

The findings in this study revealed that the *interface* in *close relationship* with the patients enabled patient-focused care where they participated in their own care and in decision-making concerning it. Concentrating on the patients' matters enabled a relationship which led to four sub-categories emerging: dialogue, informing, working in collaboration and collaborative decision-making. The findings in close relationship are consistent with Wiggins (2008). She brought to light the realities of modern health care where reduced time, fragmented care processes and changes in nurses' working habits influence the delivery of nursing care. According to Wiggins (2008), the partnership care delivery model gives a new perspective, with the goal of engaging and empowering the patients. She also emphasises that the traditional 'we know better' attitude in health care has to be changed, where decisions *about* the patients are replaced by *with* the patients. (Wiggins 2008.) Therefore, the

findings in the present study corroborated through observation what Wiggins posited on the basis of concept analysis in her paper.

A close relationship with the patient resulted in positive outcomes for patient-focused nursing. However, the short time available in present-day acute care can become an obstacle to establishing such a relationship; therefore, an important concept in nursing—knowing the patient—needs to be reconsidered. In the integrative literature review carried out by Zolnierek (2014), time, continuity, continuous contact and consistency were identified as important for knowing the patient. According to Bundgaard et al. (2012), knowing the patient depends on how attentive nurses are in the individual situation of nursing care. In modern fast-paced acute care, when time is limited, it is crucial that the relationship between the patient and the professionals is as close as possible.

Writing and reading EPRs

In *close relationship*, nursing care and simultaneously written EPRs provided an approach which supported immediate continuity of care. In the observed incidents, both doctors and nurses used the computers at the POC flexibly. Comparing this study with previous investigations, there are differences. Nurses have found mobile computers at the bedside clumsy or inconvenient and they did not want to use them at the POC. Similarly, mobile computers at the bedside were distracting during conversations with the patients. (Kossman & Scheidenhelm 2008, Tang and Carpendale 2008.) Tang and Carpendale (2008) mentioned that the nurses' conversation with the patients was not easy since the nurses' eyes were on the computer screen, instead of on the patients. However, the observations in this study did not reveal those drawbacks, even though professionals alternated between eye contact with the patient and looking at the computer screen. (Of course, a similar pattern occurs when using pen and paper.) The nurses took the computer to the bedside while assessing the patients or having conversations with them; based on my observations, this did not cause any distractions. The practice of nurses also taking their mobile computer to the patients' room during doctors' rounds was an innovation which I haven't found presented in previous studies. However, this was a beneficial way to share information with those who took care of the patient on following shifts, and thus supported the continuity of care. (cf. Wiggins 2008.)

In the *close relationship*, the processes of 'writing and reading' were seen as inseparable and reciprocal, with the components complementing each other.

(Parallel to writing, reading is as important). At the POC, the patient was involved in the dialogue or discussion. Timely reading enabled prompt interventions to patients' matters. This was supported by previous studies, in which patient safety issues were emphasized (Feng et al. 2008, Stevenson & Nilsson 2010). In their study, Hripcsak et al. (2011) presented the cycle of communication, in which the writing and reading alternated and thus accumulated the information. This cycle gave clarity to the similar process at the POC. Hripcsak et al. (2011) also found that age of the written documentation has an impact. This has significance for acute care, when time always has to be taken into account.

Based on this study, the close relationship was revealed in three categories of the documentary data: patient's voice, nurse's view and mutual view. The presence of the patients was seen in the EPRs; nurses listened to the patients and documented their perspective, such as thoughts, emotions, desires and experiences. When nurses wrote the patients' own words or clearly indicated otherwise the patients' own involvement in the documentation, it personalized and individualized patients to the readers, illuminating their life situation. These findings reflect on the established patient-focused standards for nursing documentation (Heartfield 1996, Allen 1998, Mason 1999, Kärkkäinen & Eriksson 2003, Kärkkäinen & Eriksson 2004, Kärkkäinen 2005, Kärkkäinen et al. 2005, Lindström et al. 2006, Hellesø 2006, Johnson et al. 2010, Wang et al. 2011). For example, Johnson et al. (2010) presented their findings gathered from a nursing documentation audit tool in which the set criteria elicited also the patients'—instead of only the nurses'—view. Additionally, the presented audit tool highlighted the patient as a person by including as one criterion documentation of the patient's name. (Johnson et al. 2010.)

With respect to the close relationship, the documentary data showed two main styles of documentation: focused documentation and telegraphic documentation. Both of them were written from the patients' perspective, concisely and informatively. Moreover, the PO revealed that the documentation coincided with the identified *interface* sub-categories of dialogue, informing, decision-making and working in collaboration. This kind of documentation has not often been reported in research but the efforts put into education and development have brought improvements in nursing documentation. (Björvell et al. 2003, Kärkkäinen & Eriksson 2005, Müller-Staub et al. 2009.)

Despite the concise and informative documentation, the telegraphic style can be problematic and needs to have critical attention. This study found that even if this style gave a picture of a documented subject, the text was usually written in the

passive voice and the writer was thus invisible. Heartfield (1996) performed a discourse analysis of nursing documentation, which (to my mind, at least) is a classic. She maintains that the patients become objects and the 'nurses disappear to the reader of patient records' (Heartfield 1996, p. 102). Similarly, Jeffries et al. (2011) discussed the concerns of 'fragmentary language' in nursing documentation. The use of abbreviations, as well as omitted pronouns or verbs, can cause misinterpretation by the readers of this kind of documentation, along with serious consequences to patient safety and well-being (Jeffries et al. 2011).

6.3.4 The distant relationship

Broken interface

How everything in daily life was organised in acute care had an effect on the consequences for patient care, not only in the close relationship but also in the distant relationship. The observations categorised in *broken interface* portrayed a situation in which the interaction between patients and professionals started to fall apart. The findings under the sub-categories of *monologue, sidelining* and *decision-making without negotiating* showed practices where the approach was organisation-focused rather than patient-focused. Even if the professionals valued the patients, who were considered as priorities, it happened that the organisational rules and regulations were paramount. The power imbalance experienced by patients so frequently reported in the literature (Irurita & Williams 2001, Larson et al. 2007, Henderson et al. 2009, Forbes 2010, Heijkenskjöld et al. 2010, Coughlin 2012, Marshall et al. 2012) was also observed in this study.

In a fast-paced acute care environment, power imbalances occurred both intentionally and unwittingly. The findings revealed also the dimension of deferred relationship, mixing the features of both close and distant relationships. One instance was a lack of privacy in situations when patients and professionals were talking. This issue has been discussed by Lämsä (2013) in her study of patienthood. Also, even well-intentioned and well-designed actions were in danger of falling apart because of various disruptions. The institutional systems influenced the way the professionals were working (see also Pearcey 2010), which consequently put patients in a marginalized position. Nurses have expressed their concerns that lack of time hindered high-quality nursing care (Irurita & Williams 2001, Forbes 2010, Pearcey 2010). In the wards that were investigated for this study, many non-nursing

tasks were included in the nurses' duties. They unavoidably distanced nurses from their patients. This may have shaped the organisational culture in such a way that, in the environment where the organisation-focused pattern dominated, patient care activities were considered to be similar to any other tasks on the ward. Such task-oriented and fragmented care had consequences for the patients. Task-orientation increased fragmentation (cf. Forbes 2010) in already fragmented acute care, in which constant disruptions were in evidence. Similarities have been reported in the study by Janland et al. (2011). For the patients, these power imbalances meant that their dignity was compromised, as also noted by Shoot et al. (2005), Baillie (2008), Henderson et al. (2009) and Vaismoradi et al. (2011). According to McCabe (2004), the patients did not want to disturb nurses when they seemed to be busy. Janland (2011) noticed that in task-oriented practice patients needed to take the initiative in discussions. The finding in this study revealed that task-oriented practices influenced what kind of words or phrases the nurses (or other professionals) use. The distant relationship typically described a hidebound tradition in which, instead of having a dialogue with the patient, the nurse or another professional proceeds in an arbitrary fashion, simply announcing what she/he intends to do. Additionally, the insider jargon used when talking to the patients was not meaningful to them. Communication breakdowns in patient-professional relationships are common, and noted by previous studies: Anoosheh et al. (2009), Nadzam (2009) and Fakhr-Movahedi et al. (2011). Consequently, patients can become passive and subdued if the professional authority weakened the patients' own motivation to be active in their care. In the distant or deferred relationship, the continuity of care was disrupted and patients did not receive information needed for decision-making in their own care. Similarly, Florin et al. (2005) concluded that patients' active role remains weak in clinical decision-making.

Writing and reading EPRs

As frequently mentioned in nursing research, documentation reflects the way the care was delivered and what the culture of the care is like, as well as the individual values and world views of the writer (Heartfield 1996, Kärkkäinen & Eriksson 2004, Hellesø 2006). This was seen in both the close and distant relationships. In the distant relationship, the PO revealed a fragmented picture when writing and reading EPRs. Nursing care and its documentation took place intermittently, as nurses tried to find a proper time to do their writing, in between all their other tasks. As an *ad hoc* tool, they often used a piece of paper for jotting notes at the

POC, with the information later transferred to the EPRs. When computers were located remotely from the patients, e.g., in the nursing offices, the nurses commuted between the patients' room and nursing office to confirm information they needed to write down.

The use of scratch notes has also been described previously and their worth recognised by Allen (1998), Hardy et al. (2000), Fitzpatrick (2004), Moody et al. (2004) and Tang & Carpendale (2008). However, the PO of this study showed that a caveat is necessary: writing scratch notes can lead to a detrimental habit of remote and retrospective documentation. In a busy ward, the documentation can too easily be postponed to the end of the shift, or occasionally even after the end-of-shift report. Comparing the observations I recorded at the POC with the EPRs written later by the nurse, I found that remote and retrospective documentation changed both the style and content of the documentation. Not only was the EPR written with short sentences, a telegraphic style, text in clusters, etc. but the information value was weak and limited and did not show the progress or the quality of the patient care. If the documentation time was delayed and other distractions—such as non-nursing tasks—occurred, documentation was liable to be missed out altogether.

In the distant relationship, the category *Too little or nothing to read* was seen as a result of inadequate and missing documentation, which did not fulfill the purposes of e-documentation and may have caused serious consequences to the patients. Similarities have been reported by Embi et al. (2004), who highlighted that insufficient nursing documentation hampered physicians' work, e.g., decision making. *Story writing* as a documentation style was also conducted remotely and retrospectively, and only rarely provided much of value for the continuity of care. Similarly, Törnvall and Wilhelmsson (2008) reported doctors' criticism of nursing documentation where the written text was wordy, but the essential core was missing. The authors used an example of reporting the wound *dressing* but not the wound *itself*. (Törnvall & Wilhelmsson 2008.) According to Bergen-Jackson et al. (2009), a lack of documentation hindered the continuity of care. Müller-Staub et al. (2009) and De Marinis et al. (2010) found that important issues were not documented. Obviously, the documentation needs to benefit all of the interdisciplinary team members who are participating in the patients' care, in order to best serve the patients' interest.

In a *distant relationship*, the PO also revealed that *Non-timely reading or non-reading* habits were closely related to each other and were caused by lack of time or interest or sufficient content. Additionally, they were acquired habits, where nurses leaned

on oral communication related to the nursing care (cf. Jeffries et al. 2010, von Krogh & Nåden 2011, Hripcsak et al. 2012) and on their personal notes made during the end of shift report (cf. Allen 1998, Hardy et al. 2000, Fitzpatrick 2004, Moody et al. 2004, Tang & Carpendale 2008). Non-reading habits were also verified by Hripcsak et al. (2012), who reported that nurses did not read all their colleagues' notes, nor did the doctors.

7   Conclusion

7.1   Recommendations

In the fast-paced and fragmented modern health care environment, putting (and keeping) patients in the spotlight is fundamental. Despite challenging circumstances, the quality and safety of patient care cannot be compromised.

The present study revealed that a close relationship between the patients and professionals enhances the patients' endurance and allows them to better concentrate on their future lives. Recognising that the patients themselves are experts in regard to their own lives, it is time to replace the paternalistic attitude among health care staff—'we know better'—with the idea that decisions are not to be made about the patients but rather with the patients (Wiggins 2008). The professionals in acute care participate in their patient's life only for a short time, while the patients live with their treatment or recovery for weeks, months or even the rest of their lives. If patient care were based on a collaborative relationship (Munnukka 1993), the patients could fully participate throughout the course of their treatment and the health care professionals could contribute to the patients' life situation with their expertise.

Professional competence is more than just expertise in a specialised area. It also needs to be shown in skill areas such as interaction or communication with the patients and interdisciplinary partners. The study showed that the close relationship between nursing care and electronic documentation was of great importance in the acute care. Real-time electronic documentation, in writing and reading together with the patient, can provide trustworthy and transparent communication, making the patients part of the decision-making concerning their life situation.

By reinforcing real-time documentation, health care organisations simultaneously support the continuity of care. The patient-focused approach to electronic documentation needs to be recognised and understood by the administrative personnel who make the decisions about providing computers for nurses' use on the wards because it is important that patient-focused values lead their decisions.

As the findings revealed, using fixed computers in the nursing offices changed the documentation practices, causing double documentation, time delays and inefficient results. But mobile computers were not provided for nurses' use in every ward. Therefore, it is recommended that the development of acute care nursing evolves toward greater real-time use of EPRs, which is promoted by mobile computers.

A task-oriented approach was prevalent in the wards. Moreover, the acute care settings were full of disruptions. There is a need to minimise disruptions and task-orientation, as well as to re-organise the daily actions in acute care settings. The high-competency education and professionalism of qualified nurses has to be recognised. Nurses work at the frontline of patient care and they are of greatest value when they are in a collaborative relationship with the patients. The nurses' skills are most effectively employed when non-nursing tasks are done by support staff, allowing nurses to spend their time with the patients.

As the findings of the study indicate, attitudes toward the patients, their care and documentation have consequences for the patient care itself—in both a positive and a negative manner. Even though the attitudes were friendly, the way of thinking could have been organisation-focused, rather than patient-focused. The attitudes and way of thinking at all levels of the organisational hierarchy need to be recognised and carefully considered in nursing. Therefore, it is important for those who make the decisions to appreciate the ramifications of the choices that they make.

7.2   Relevance of the substantive theory

This study synthesised a new vision of the complex connection between patient-focused nursing and its electronic documentation in acute care. Therefore, the substantive theory generated here is significant for various developmental areas. The findings reveal information about patients' experience in the short time they spent in acute care. The information which is generated by the substantive theory can be used to develop the daily practice in acute care in a more patient-focused direction. Also, this study produced findings which can help professionals understand the meaning of time in fast-paced acute care, both for themselves and for their patients. This is important when new practices are developed or old ones are reorganised.

Often the life in an acute care setting can start to look like work on a conveyor-belt assembly line. Therefore, the generated theory can give a view 'outside the box' and provide a good basis for the nurses and all other interdisciplinary professionals to think critically about their way of working in these settings.

The importance of real-time electronic documentation for nursing care is emphasised in the theory. Also, the findings regarding the various categories of documentation promote understanding of their consequences for the patients' care. All these issues described above give direction to the planning of practical areas, but also offer insight to the administration and decision-makers.

The theory can help in strengthening knowledge about patient care, electronic documentation and the practices of writing and reading. Moreover, the knowledge presented can be used when communication channels, such as end-of-shift reporting systems, are planned. The theory can be used for educational purposes in nursing schools and continuing education. Finally, this theory can be of value in identifying areas for future research.

7.3   Suggestions for further research

Based on the findings of the study, I suggest the following topics for further research.

The significance of POC e-documentation for the continuity and safety of care needs further investigation; for example, an intervention study could reveal areas for development.

The language—both spoken and written—used in acute care and other health care settings reveals important issues and therefore needs to be examined more closely; suitable research methods could be observation and documentary analysis.

The patient's status in the organisational culture of the hospital is worth investigating. PO and interviews, for example, could provide data for this topic.

How family nursing could be further enhanced in acute care deserves more investigation, both in nursing practice and in electronic documentation.

Another important topic would be to investigate the consequences of neglected electronic documentation.

Further research regarding how different professionals contribute to the patients' care could help improve interdisciplinary collaboration.

The fragmentation of health care systems, e.g., the constant distractions and disruptions, should be under serious investigation.

More information is also needed about the reading of EPRs, specifically the reasons why health care professionals do and don't read them.

An audit tool for patient-focused electronic nursing documentation is needed. Such a tool could be useful both in daily practice and for research purposes.

How the patients' history and future care plans are part of nursing and its documentation in acute care needs further research.

The use of EPRs and the content of electronic documentation need to be investigated from an ethical and legal perspective.

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Appendices

Appendix 1.

POTILASTIEDOTE   18.2.2008

Arvoisa potilas!

Pyydän ystävällisesti Teitä osallistumaan tutkimukseen, jossa selvitetään hoitotyön dokumentoinnin toteutumista sähköisessä potilasasiakirjajärjestelmässä. Tutkimuksesta saatavan tiedon avulla hoitotyöntekijät voivat kehittää hoitotyön laatua entisestään. Tutkimuksen tulokset julkaistaan väitöskirjana Tampereen yliopistossa hoitotieteen laitoksella.

Tutkimus toteutetaan tarkastelemalla sähköisiä potilasasiakirjoja sekä havainnoimalla päivittäistä hoitotyötä. Havainnoinnin aikana tutkija toimii joskus ulkopuolisena tarkkailijana ja joskus osallistumalla hoitotyön tilanteisiin. Havainnoinnin yhteydessä tutkija tekee pieniä tilanteisiin liittyviä haastatteluja mukana oleville henkilöille, joita voivat olla sekä potilaat, läheiset että hoitohenkilöstö. Tutkimus edellyttää Teiltä suostumistanne vuorovaikutukseen tutkijan kanssa sekä tutkijan läsnäoloon hoitotilanteissa. Havainnointi kestää yhdestä hoitotilanteesta useaan saman potilaan kohdalla jatkuen mahdollisesti myös tulevina päivinä. Havainnoinnin apuna tutkija käyttää nauhuria ja kirjoittaa muistiinpanoja.

Ennen havainnoinnin aloittamista Teiltä pyydetään kirjallinen suostumus tutkimukseen osallistumisesta. Teillä on oikeus kieltäytyä tutkimukseen osallistumisesta kaikissa sen vaiheissa. Kieltäytymisenne ei vaikuta hoitoonne tai kohteluunne. Kaikkea kerättyä tietoa ja tutkimuksen tuloksia käsitellään luottamuksellisesti ja henkilöllisyytenne pysyy salassa. Osaston henkilökunta ei osallistu tiedon käsittelyyn. Pirkanmaan sairaanhoitopiirin eettinen toimikunta on antanut tutkimukselle puoltavan lausunnon.

Jos Teillä on tutkimukseen liittyviä kysymyksiä, vastaan niihin mielelläni. Kiitän Teitä lämpimästi tutkimukseeni kohdistuvasta mielenkiinnosta.

Tutkija   Ohjaajat

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Appendix 2.

PIRKANMAAN
SAIRAANHOITOPIIRI
Yhdessä terveyttä   **SUOSTUMUS**

POTILASLÄHTÖISTÄ HOITOTYÖN DOKUMENTOINTIA KÄSITTELEVÄ TUTKIMUS

Olen saanut sekä kirjallista että suullista tietoa potilaslähtöistä hoitotyön dokumentointia
selvittävästä tutkimuksesta ja mahdollisuuden esittää siitä tutkijalle kysymyksiä. Olen ymmärtänyt
tutkimuksesta annetut tiedot.

Ymmärrän, että tutkimukseen osallistuminen on vapaaehtoista ja että minulla on oikeus kieltäytyä
siitä milloin tahansa syytä ilmoittamatta. Ymmärrän myös, että tiedot käsitellään luottamuksellisesti.

Tampereella ___.___.2008   Tampereella ___.___.2008

Suostun osallistumaan tutkimukseen: **Suostumuksen vastaanottaja:**

_____   _____
potilaan allekirjoitus   tutkijan allekirjoitus

_____   _____
nimenselvennys   nimen selvennys

_____
potilaan henkilötunnus

_____

_____
osoite

Original publications I-IV

Patient-focused nursing documentation expressed by nurses

Heleena Laitinen, Marja Kaunonen and Päivi Åstedt-Kurki

Aim. The aim of the study was to investigate what expressions nurses use when documenting patient-focused nursing care in electronic patient records.

Background. Much effort has been made in the development of nursing documentation. Many studies have found inadequate reporting, focused more on tasks and treatment than on the patient's voice. Electronic patient record-systems have been introduced, bringing new challenges because of unfamiliarity with computers. Electronic patient records have caused dissatisfaction and frustration, however, some studies show improvement in documentation given enough time and effort. Electronic patient record documentation is an integral part of patient-focused care and thus needs to be investigated.

Design. The study is based on the grounded theory approach, as developed by Strauss and Corbin.

Methods. Forty electronic patient records were analysed, considering whether nurses' written expressions reflected a patient-focused approach. An inductive qualitative method was used, involving constant comparative analysis, up to axial coding.

Results. Three categories emerged from the data: Patient's voice: the patient has expressed his/her thoughts, which are written by the nurse, Nurse's view: the nurse recounts the patient's own thoughts, state or situation and mutual view in patient–nurse relationship: the documentation describes the patient–nurse relationship.

Conclusions. This study found that the nursing documentation was patient-focused, to some extent. This is significant because nursing documentation represents much more than simply a record of the continuity of care. Many topics for further studies were presented, e.g., the timing of documentation and the differences between the mode of nursing and the documentation.

Relevance to clinical practice. The presented findings may be helpful in the development of nursing documentation in electronic patient records and in nursing practice generally. Highlighting the patient's voice could become an effective tool in nursing and its documentation, saving time and getting clear information for improving the patient's care.

Key words: documentation, electronic records, grounded theory, nurses, nursing, patient

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Introduction

Nursing documentation has always been regarded as a precondition for good patient care and as an important tool in communication between health care professionals and patients (Ammenwerth *et al.* 2003, Lindström *et al.* 2006). However, multiple studies have found handwritten nursing documentation to present mostly bio-physical needs and problems, along with medical observation – but not nursing care (Heartfield 1996, Griffiths 1998, Mason 1999, Kärkkäinen & Eriksson 2003, Törnvall *et al.* 2004, Voutilainen *et al.* 2004). The patients' own view, with many important aspects, e.g., spiritual state, pain assessment and pedagogical needs, has been either poorly or not at all documented (Heartfield 1996, Nordström & Gardulf 1996, Biggs & Dean 1998, Kärkkäinen & Eriksson 2003, 2005, Voutilainen *et al.* 2004, Lee 2005, Friberg *et al.* 2006).

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The electronic patient record (EPR) system has been widely implemented in health care (Nahm & Poston 2000, Ammenwerth *et al.* 2003, Dochterman *et al.* 2005, Smith *et al.* 2005, Kossman & Scheidenhelm 2008). Much hope and effort have gone into it, not least because it has the potential to improve the quality of patient-focused documentation (Nahm & Poston 2000, Smith *et al.* 2005, Kossman & Scheidenhelm 2008). A major advantage is that it provides immediate access to the patient file, thus allowing immediate, efficient and secure patient care (Moody *et al.* 2004, Kossman & Scheidenhelm 2008).

Nevertheless, frustrating aspects of the e-system have been reported, such as making documentation cumbersome and time-consuming (Kossman & Scheidenhelm 2008). It has been blamed both for decreasing time nurses spend with patients and for increasing the distance between patients and nurses (Kossman & Scheidenhelm 2008). Duplication of writing is found because the EPR documentation was impossible at the bedside and nurses transferred their notes later from paper to the computer (Moody *et al.* 2004).

Along with the implementation of the technical EPR system has occurred a simultaneous development of structured content in patient care. Studies have shown that structural electronic templates increase the accuracy of documentation and clarify the focus of patient care (Dochterman *et al.* 2005, Smith *et al.* 2005, Hellesø 2006). Both Dochterman *et al.* (2005) and Smith *et al.* (2005) reported improvements in individualised patient care. According to Ensio (2001), the integrity of the information helps nurses in transferring it, thereby benefiting the patients. Hellesø (2006) noted that templates may develop individualised information and facilitate the continuity of care.

However, in EPR documentation, important patient-focused information can be lacking. For example, Törnvall *et al.* (2004) found that the holistic view of the patient was missing. They stated that in the structured documentation medical status and intervention were predominant over nursing status and its interventions. According to Hellesø (2006), limited attention to the patient's voice amidst the total volume of information recorded makes it seem as if the nurses were strictly objective in writing the 'facts'.

It is encouraging to note that those studies which measured the development of nursing documentation after an intervention, such as education or an improvement programme, showed some progress (Nahm & Poston 2000, Ehrenberg & Ehnfors 2001, Kärkkäinen & Eriksson 2003, 2005, Smith *et al.* 2005). Smith *et al.* (2005) pointed out that the level of improvement corresponds to the length of time between implementation of a programme and the follow-up measurement.

Based on the above literature, it appears that the EPR-system has brought both advantages and hope to patient-focused documentation as well as drawbacks and disappointment. To obtain a better understanding of the practice of nursing care and its computer-based documentation, Currell and Urquhart (2003) emphasised the importance of qualitative nursing research. One of the multiple purposes of documentation is that it ensures the quality and efficiency of patient care (Cheevakasemsook *et al.* 2006). Furthermore, by documenting the patients' views, their wishes and needs are made visible. Thus, it is made clear how, they want to be cared for (Kärkkäinen & Eriksson 2003, 2005). Moreover, through the patients' participation, important information for improving the quality of care can be received (Lutz & Bowers 2000, Florin *et al.* 2006). Also, according to Currell and Urquhart (2003), qualitative nursing research can be of value in the design and testing of nursing information systems. However, qualitative studies of the content of EPR-documentation with a patient focus are extremely rare. Consequently, the content of EPR-documentation needs more investigation with a qualitative approach. Through qualitative analysis, the data are examined and interpreted to elicit meaning, gain understanding and develop empirical knowledge (Corbin & Strauss 2008). Constant comparative analysis has been applied (Strauss & Corbin 1998, Corbin & Strauss 2008).

Aim

The aim of this study was to generate patient-focused concepts from electronic nursing documentation by using the constant comparative method (Strauss & Corbin 1998, Corbin & Strauss 2008). The interest was in the written expressions – words and sentences – without regard to the structure or process. The research question was: 'What written expressions do nurses use when documenting patient care in EPRs?'.

Sample

The study was conducted in four wards in a hospital district in southern Finland, with the approval of the district's Ethics Committee. Three of the wards were in the university hospital and one was in a district hospital. Two of the wards were surgical wards, one was oncological and one was an internal medicine ward. Duration of patients' stay varied from one or two days to several weeks. In all four wards, computer-based documentation with individual EPRs had been introduced over a year prior to the study.

The headings and subheadings of the EPR were developed by a multiprofessional committee. However, the technical

implementation of the EPR was still incomplete, consequently, some necessary tables and forms were not ready for use. As a result, part of the documentation was still done manually but for daily events the EPR was in use.

A list was obtained from the hospital of all patients who had been discharged between 12 February–2 March 2007 from the four wards being studied. Ten records (*n* = 10) were then chosen by the principal researcher. Every third record was manually chosen until ten records were selected from each ward.

The total sample was forty (*n* = 40) records, which were considered sufficient to achieve saturation (Polit & Beck 2008). All the EPRs were printed, with the paper version totalling 322 pages. Before starting the analysis, a coding system was created to identify every patient's record in every ward. Each ward was designated by a letter and each patient record by a four-number code (e.g. D1001, O1010). This code was then used in all paper-printed versions and computer files. Accurate coding ensured easy access to the data in any phase.

Data analysis

The study was conducted inductively in accordance with Strauss and Corbin's Grounded Theory approach (1998, 2008), using constant comparative analysis. The analytic process involves open, axial and selective coding and uses constant comparison in looking for similarities and differences in pieces of data. In the present study, the data were analysed up to axial coding. The process of analysis began with reading all the printed records many times. Simultaneously posed questions, such as 'what's going on?', helped with comprehension of the data. For each record, the analyst created a text file transcribing verbatim the important pieces of documentation regarding patient focus. Also, in every text file questions and comments for further investigation were written. The analyst returned to the printed records throughout the study for the purpose of asking more questions of the data and reaching a deeper understanding (Strauss & Corbin 1998, Boychuk Duchscher & Morgan 2004, Corbin & Strauss 2008).

In open coding, microanalysis was used to break the data into detailed pieces (Strauss & Corbin 1998, Corbin & Strauss 2008). Microanalysis is a detailed process generating initial categories and suggesting relationships among them. Concurrently, the questions 'what', 'who', 'when' and 'how' were posed. Through this method, different views, themes, patterns and writing styles became more visible. It helped the analyst to understand the meaning of the written expressions (Strauss & Corbin 1998, Corbin & Strauss

2008). The following example shows how a piece of data can be broken down by using microanalysis (Strauss & Corbin 1998):

Original expression: 'Experienced chemotherapy rather hard, especially at the end of the treatment.'

- *What*: experience of chemotherapy.
- *Who*: patient.
- *How*: rather hard.
- *When*: especially at the end of the treatment.

The data were arranged in the table by first writing the original expression from the record. Secondly, from the broken-down pieces of data were highlighted the properties for defining and describing the concepts. Third, under the title of dimensions, the data gave specificity to the concepts. In the fourth section, the concepts were then grouped according to their meanings under sub-categories (Corbin & Strauss 2008). This was the beginning of the axial coding, where the data were organised together in a different way. The paradigm model, presented by Strauss and Corbin (1998) and Corbin and Strauss (2008), was used. Its basic components are conditions, inter/actions, emotions and consequences. It helped the analyst identify the relationships between context and process and see nursing documentation in a new light. In the next example (Table 1), the paradigm model has been applied to the original expression:

The 40 sub-categories at this point were reorganised into new categories. The process of comparison continued by combining the concepts, sub-categories and categories together. In the end, there were three categories, with a total of 14 sub-categories, which illustrated the patient-focused documentation.

Ethical considerations

Since the sample of data in the current study was limited to the EPRs only (not including any other method involving patients), the study was approved by the medical director of the hospital district. All data were handled confidentially. According to the protocol, only the principal researcher was allowed to know the patient's name and social security number for administrative purposes, but this information was removed from the records before the stage of data analysis to prevent it from having any influence on the analytic process. Except for the researchers, no other person had access to any EPR under the study. The principal researcher informed the staff of the participating wards about the study and its confidentiality in staff meetings, providing also written material explaining the study. The coding system developed by the principal researcher increased the confidentiality, since no other person was aware of the codes. The researchers

Table 1 Use of the paradigm model (adapted from Strauss & Corbin 1998). Every detailed piece of data was compared to the component of the paradigm

Original expression, broken down	Properties	Sub-category	Paradigm	Category of documentation
Sleeps badly...	Not sleeping	Patient's experience	Phenomenon: pain Condition: the pain disturbed patient's sleep	Nurse's view
when asked	Asking question	Nursing intervention	Interaction	Nurse's view
says	Answering the question	Patient's experience	Interaction	Patient's voice
that there is discomfort in stomach, pain.	Discomfort, pain in stomach	Patient's experience	Emotion: patient's feeling	Patient's voice
Medicated po,	Medicating po	Nursing intervention	Action	Nurse's view
pain not relieved,	Pain continuing	Patient's experience	Consequence	Nurse's view
medicated iv.	Medicating iv	Nursing intervention	Action	Nurse's view
After this the pain relieved	Pain relieving	Patient's experience	Consequence: outcome	Nurse's view
even able to sleep a little	Sleeping	Patient's experience	Consequence: outcome	Nurse's view

Original expression: 'Sleeps badly... when asked says that there is discomfort in stomach, pain. Medicated po, pain not relieved, medicated iv. After this the pain relieved, even able to sleep a little.'

committed to present the results to the participating wards after the study was completed.

Findings

Three categories of documentation appeared: patient's voice, nurse's view and mutual view in patient–nurse relationship.

Patient's voice

In the documentation, nurses expressed the patient's perspective by revealing the patient's involvement in his/her care.

Patient's mood

Many feelings reflected the patient's physical condition or treatment, such as the joy of improved health or sorrow on hearing bad news. Patients compared their situations by expressing happy or sad moods.

Some nurses documented the patient's emotions and the continuity of their well-being throughout the hospital stay. For example, one nurse recorded a patient's disappointment when the operation was cancelled. Later, another nurse conveyed the patient's mood thus: 'patient in humorous mind, hopes finally tomorrow to get to the operation.'

Expressions of fear or worry were often related to the patient's treatment or operation. In some written expressions, patients showed their feelings about the restless environment. The patients' hope and trust for the future were occasionally shown, as in: 'hopes that the operation will improve his quality of life.'

Patient's experiences

Documented patients' experiences were mainly related to the patient's current physical state. The patient's comparison of his/her current situation to the past was often found. Much of the patient's information concerning his/her problem was documented in detail. 'Patient feels the worst problem at the moment is that he is not able to lie down. According to the patient, he cannot stand as his feet won't support him.'

Experiences of pain documented in the patient's voice frequently revealed sufficient pain relief. When the cause of the pain was unknown or when the effectiveness of the pain medication was questioned, the patients' vivid expressions helped in finding the right approach. Also a patient's reflections were sometimes seen as an evaluation of their treatment: 'Experienced the chemotherapy rather hard, especially at the end of the treatment.'

Patient's preferences

Nurses reported their patients' desires in choosing daily activities, e.g., whether or not to have a shower, or in requesting special food. Wanting to have specific medication and the fulfilment of patient's preference was also documented. 'Wants more effective sleeping medication.' Later in the record: 'In accordance with the patient's will, medication X scheduled.'

Writing patient's preference, the nurses used often conditional verbs. Usually, it involved the patient's discharge, either going home or to another health care facility. This was sometimes reflected when there was a difference between the patient's view and that of the professional, such as in the next two quotations: 'Has been completely self-reliant. Would like

to go home already.' 'Wouldn't be happy going to the health care facility.'

Patient's decision-making

Patients' decision-making was rarely documented. The few times it occurred point to a special incident or a patient's announcement regarding providing information to outsiders or his/her decision to go home. There were incidents when the patient's decision-making happened in contradiction to the staff. In these situations, the nurses gave a detailed explanation for the patient's expressions. Some documents showed nurses teaching about various possibilities for treatment, enabling the patient to make his/her own decision, e.g., 'Patient got information about the frozen-gel cap, does not want to try it.'

Patient's own involvement

The records illustrated the patients' own responsibility for their care and how they were taught to take care of themselves. The outcome of the teaching was verified by the use of such words as 'knows' or 'thinks', as in the following: 'Patient thinks she will get along at home with her husband and guide dog, so will be discharged tomorrow.'

Nurse's view

This category includes documentation written from the perspective of the nurse or other health care professional. Writing included, e.g., assessing the patient, explaining the situation and reporting events.

Patient's affect

Reporting the patient's affect from the nurse's point of view obviously reflected the nurse's observation. Nurses often described the patient's behaviour when documenting his/her affect. For example, an anxious patient expressed his affect with great energy. His emotional outburst was described verbosely. Throughout this patient's stay, the nurses were alert to his feelings and noted the changes. 'In the evening scratched at the wounds, restlessness in the talks, going over the limit.' Two days later: 'In his mind now a little more peaceful compared to a couple days earlier. Even smiled a bit, although worries a lot about everything under the sun.'

Nurses often included an explanation to verify patient's affect. This also gave an impression of watching the patient from a distance. 'Paced back and forth in the corridor. Is nervous about the operation.'

Patient's experiences

The patient's experiences, documented in the nurses' view, usually involved certain incidents. It was not shown directly whether the patient was first heard and his/her comments reported, or if the documentation was based on the nurse's own interpretation. Nurses wrote their comments mainly in informative or evaluative style. Informative writing consisted of short notes which could contain important information but sometimes left out questions about the patient's real experience, e.g., 'chemo-infusion dripped without problems and the patient's condition been good' or 'pain under control.' The nurses paid much attention to documenting specific incidents when reporting the outcome of the care. Night events, including the patient's sleep, were often written in detail, e.g., 'Beginning of the night the neighbour's treatment was disturbing. Later in the night the sleep was average.'

Characterising the patient

What the patient is like and what his/her capabilities are was typically present in the records. The nurses' most frequent word was 'self-reliant', based on their observation and assessments. It was also used to confirm the patient's readiness for discharge: 'Completely self-reliant, would like to go home already.'

In general, the nurse's written text was relevant. However, it was revealed sometimes to be labelling the patients. Certain kinds of subjective comments, having positive, neutral or negative meaning, were applied to the patients. Moreover, the way documentation was written showed if the concern led to any interventions or if it was merely an isolated statement: 'nice man', 'quiet man, doesn't say much', 'looks sad'.

Patient's physical condition

In this study, all the wards were in somatic areas. Nurses used their own interpretation when observing and assessing patients' physical conditions. Comparing physical changes with the patient's previous condition showed improvement or decline. When writing, nurses sometimes excluded the patient as a person. The focus in writing was evaluating the medical treatment with short comment such as 'no problems with the infusion.'

Nursing care

Throughout the records, nurses used the passive voice in describing nursing care. This practice sometimes made it unclear whose actions were being recorded. Often, nursing care was only stated as having been done, without mentioning the outcome. Sometimes, however, the situation was clarified by including both the status before the intervention and the outcome after, e.g., 'Is afraid of having epileptic seizure again. Has been comforted' or 'Wound care has been done. The wound is now cleaner.'

In some records, nurses wrote about their own involvement in a way which showed that they were present but their specific action was not stated. When documenting the patient's situation, they involved themselves in the event, such as: 'while being asked, patient tells' or 'with nurse's encouragement, the patient took some steps.'

Family relationship

Nurses noted patients' contacts with family members, visits and some phone calls. Such documentation stemmed from the nurse's observation of family relationships from a distance. Some notes described a patient's weak condition during a family members' visit but reported: 'was still able to go to the cafeteria with his family.' Some records showed a family member participating in the patient's care. For example, a meeting was organised to teach the family member how to be involved: 'wife is coming to learn bandage changing' and later: 'both patient and wife have been taught.'

Mutual view in patient–nurse relationship

Documentation of the mutual view revealed the dialogue between the patient and the nurse. Nurses documented the intention to reach and deepen, a common understanding in patient care and agreements between the patient and the nurse.

The agreement

Patients and nurses in collaboration made agreements, which the nurses wrote down. They usually were based on daily activities and showing the patient's commitment to his/her own care. Even if documented briefly, there was a clear message of shared understanding. One simple example: 'Agreement made that patient will call the ward immediately if doesn't manage at home.'

The exchange of information

Patient and nurse exchanged information which helped both in going forward with the patient's care. The nurse's writing could be short, but it was informative. There were dialogues where nurses kept information confidential and others which showed the conversation in detail. Some written conversations revealed patient's and nurse's collaboration in solving the patient's problems. In such documentation, the patient's and nurse's voices alternated: 'There have been lots of different questions about lab-tests, illness, care-instructions etc. Lots of time, support and guidance have been given. Was pleased to be able to go home.'

Joint activities

Different events in nursing care showed the collaborative relationship between patient and nurse. Its documentation showed several simultaneous aspects, such as concrete action, teaching and common decision-making in regard to proceeding towards the patient's independence: 'Stoma bag emptied by guiding patient verbally. Will try to empty it himself next time needed.'

Discussion

In inductive data analysis, the researcher attempts to build an understanding of the data. Consequently, his/her interpretation is important (Strauss & Corbin 1998, Corbin & Strauss 2008). Moreover, according to Corbin and Strauss (2008) many stories of one datum can be told from different perspectives. This is one result, other investigators could have found others. The principal researcher's familiarity with the subject may have improved the trustworthiness (Fereday & Muir-Cochrane 2006). The original expressions were used to increase the credibility of the results (Polit & Beck 2008). Using microanalysis in breaking down the data allowed them to be observed in detail, to give the study more credibility (Strauss & Corbin 1998, Corbin & Strauss 2008). The sampled data were sufficient for reaching saturation (Strauss & Corbin 1998). The principal researcher analysed the data herself, however, her constant meetings with her two tutors at the university may also have given the study more credibility.

Many earlier studies of traditional hand-written documentation show how the medical and physical status of patients is recorded (Heartfield 1996, Nordström & Gardulf 1996, Biggs & Dean 1998, Griffiths 1998, Kärkkäinen & Eriksson 2003, 2005, Törnvall *et al.* 2004, Voutilainen *et al.* 2004, Lee 2005, Friberg *et al.* 2006). Previous studies of EPRs have done this also (Törnvall *et al.* 2004, Smith *et al.* 2005, Hellesø 2006). However, no previous studies of EPRs have examined how the *voice of the patients* was also found in the documentation, to some extent.

The reported three categories all provided important information, albeit in different ways. The data in the first category – recording the patient's voice – gave those reading the EPRs a more vivid impression of the patient, adding another dimension to the picture by revealing affective concerns such as fear, anxiety or hope. This style of writing helps both to create a more complete representation of the patient's condition and to find the right treatment or solution (Kärkkäinen & Eriksson 2003). This is one important aspect of what nursing documentation is for.

In the second category, the nurse's view, the documentation gave valuable insight with the potential to improve the quality of patient care and the accuracy the EPRs. Nurses documented some incidents carefully, describing patients' conditions, interventions and consequences, as well as comparing the progress of the care. The present findings are comparable to those of Törnvall *et al.* (2004), Smith *et al.* (2005) and Hellesø (2006). However, sometimes the impression was given that nurses made their comments from a distance, rather than being with the patient and/or the family. As Hellesø (2006) states, they are taking an objective approach and simply writing 'facts'.

Nurses usually documented family relationships as if they were watching the contact between patient and family from a distance, merely noting such interaction. In fact, nurses are the connecting link between the hospital and the home. Families can provide the resources for a patient's care and the family members need support from the health care professionals (Gebru *et al.* 2007). Family nursing is a part of holistic care (Maijala *et al.* 2003, Hopia *et al.* 2005). Consequently, family connections deserve more attention in nursing documentation.

In general, what the nurse recorded was relevant. Nevertheless, it was revealed that nurses sometimes characterised their patients. In documentation, patients easily get labelled and even if the message is positive, it can influence how that patient is regarded (Mohr 1999). Ward and Innes (2004) reported that patients expressed their fear of being labelled in the documents. In writing documentation, the nurse always has to keep in mind that the record is about the patient's care and thus should be open for the patient to read. It always has to be written with respect (Kärkkäinen & Eriksson 2003, 2005) and never used as a tool of power (Mohr 1999). This is why documentation has to be taught and studied, from an ethical point of view (Kärkkäinen & Eriksson 2003).

The third category described the mutual view in the patient–nurse relationship. The writing alternated between the patient's voice and the nurse's views, but what it expressed was vivid. Munnukka (1993), Florin *et al.* (2006) and Larsson *et al.* (2007) have emphasised the significance of exchanging information between patient and nurse. The finding under this category supports the finding of Florin *et al.* (2006) regarding strengthening patient–nurse relationship and Munnukka's (1993) conclusion that patient and nurse work in collaboration to improve the patient's health.

Writing about nursing care in the passive voice gives the impression that nurses are invisible in their own profession. It not only leaves the nursing care hidden but also leads to confusion: who is doing or who is taking? According to Heartfield (1996), nurses tend to disappear from the reader of patient records. The invisibility has its price, as nurses don't reveal their active role (Heartfield 1996).

Nurses consistently used the word 'patient' when referring to the person in their care, although the words 'lady' or 'man' were occasionally used. The nurses omitted pronouns (Hellesø 2006), which in the Finnish language is grammatically correct. However, this kind of writing gives documentation a 'telegraphic' style which can sometimes be too short to be clearly understood, as was pointed out by Törnvall *et al.* (2004).

The language of documentation sometimes signalled institutionalised thinking. For example, nurses' use of conditional verb forms when reporting the preferences expressed by the patients in their care could reflect the weakness felt by those patients. This study found that, although nurses wrote the patient's preferences, somehow the patients' own decisiveness seemed to be weak, as was also noted by Florin *et al.* (2006).

To some extent nurses did write about the results of their actions. Nevertheless, greater emphasis needs to be placed on the evaluation of nursing care (Smith *et al.* 2005). For example, Friberg *et al.* (2006) suggested that more emphasis on documenting the evaluation of patient teaching is needed.

Time-consuming electronic systems can take nurses away from their patients. Since the information the nurse needs to document is obtained during contact with the patient, this distancing has a negative effect on both the quality of patient care and its documentation (Moody *et al.* 2004, Kossman & Scheidenhelm 2008). This is an issue to be considered when developing EPR documentation.

The three categories presented in this study revealed many insights but also many challenges. More qualitative studies would be needed to get a deeper understanding of electronic patient focused documentation. Also, using multiple methods in investigating EPR documentation would give more perspective and richness in its development (Currell & Urquhart 2003).

Limitations

This study has several limitations. First, the focus was on the expressions used by nurses when writing documentation. Therefore, neither the structure nor the process was examined. This may give a limited perspective.

Secondly, the data were analysed using the constant comparison method presented by Strauss and Corbin (1998). This method is not primarily used for analysing data in documents. However, constant comparison and

microanalysis were chosen as the most appropriate methods for the purpose of this study. Additionally, the aim was to generate concepts in patient-focused documentation for developing documentation in the future. One limitation might be that in the study only open and axial coding were performed. Another limitation could be that the qualitative approach is necessarily interpretative, thus, other researchers may well have different points of view.

Thirdly, the composite data from all four wards were analysed as a whole. There might be interesting differences in the documentation written in each of these four wards, since they served different purposes of care.

Relevance to clinical practice

The presented findings may be helpful in the development of nursing documentation in EPR and in nursing practice generally. Highlighting the patient's voice ensures that the patients' perspective is always present and the nursing staff can be educated to write in that way. It can save time and provide information for improving the patient-focused approach and, accordingly, the patient's care. The results of the study can also be used in nursing education and development. Moreover, the results of the present study can be useful in developing the structure of EPR documentation. From the perspective of patient participation, evaluation of care and quality improvement, these findings could give important insights.

Conclusion

In this study, by using an inductive approach of constant comparative analysis, written expressions used by nurses in EPRs were investigated. As many earlier studies have indicated, the nursing care as experienced or described by the patient is too often not documented. To some degree that was also found in this study. There were a few records where the patient's voice was not heard at all and rather more where the patient-focused approach was insufficient. Nevertheless, the positive findings in this study revealed that both the voice of the patient and the mutual view in patient–nurse relationships were documented. Nurses generate a huge amount of important information concerning patients' care and this should be appreciated in health care. The documentation can obviously be used for many purposes. Far from being of use only in patient care, it can in many ways also be an important resource in education, research and quality improvement. Consequently, it is imperative that it be carried out to a high standard and in an exemplary way, with constant attention to further development and research.

There are suggestions for further studies. First, it would be interesting to know if there is a difference in documentation depending on the time it is written, i.e., immediately after the interaction/intervention with the patient or at the end of the shift. Secondly, more attention should be paid to the form of nursing documentation in light of the mode of nursing care being delivered, e.g., primary nursing, task-oriented nursing, etc. Thirdly, the relationship between EPR templates and patient-focused content should be investigated.

Contributions

Study design: HL, PÅ-K, MK; data collection and analysis: HL and manuscript preparation: HL.

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* **RESEARCH PAPER** *

When time matters: The reality of patient care in acute care settings

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The purpose of the study was to investigate the reality of patient care in acute care settings when the patients' stay in the hospital was relatively short. The study was conducted by using the grounded theory method with constant comparative analysis. The sample comprised patients ($n = 43$) participating, relatives and hospital staff. The data were collected by participant observation, including informal interviews in natural settings, and by reviewing participating patients' electronic patient records. The main findings are presented in three categories: patients' endurance, interface and broken interface (along with several subcategories). The study showed that even with time pressures, good health care was delivered. However, it also showed some challenging issues for improvement. The study concluded that it is crucial for caregivers to focus on interactive patient care.

Key words: caregivers, hospitals, interaction, nursing, patient care.

INTRODUCTION

Current health-care systems worldwide are complex. Although new innovations in science and technology are emerging and treatment protocols have improved patients' care, simultaneously risks that reduce patients' safety and well-being have increased.[1] The patients' stay in acute care hospitals is kept to a minimum, and they are transferred rapidly from one place to another.[2,3] The daily practices become fragmented and nursing care is reported to be task-oriented with routine schedules.[4,5] Also, the nurses' other responsibilities, such as indirect nursing or non-nursing duties, make the work more complex.[6,7] Haste affects the relationship between the patient and the

Correspondence: Heleena Laitinen, Aaltosenkatu 36 A 7, 33500 Tampere, Finland. Email: heleena.laitinen@uta.fi; heleena1@elisanet.fi

nurse.[8] The patients might experience a busy and chaotic environment, in which they feel like they are on a conveyor belt.[9]

Illness and hospitalization are likely to increase emotional distress for patients. In cases of a short stay, patients are not always fully recovered when they are discharged.[10] Additionally, patients might have comorbidities that need simultaneous care. This necessitates a broad awareness of treatment requirements for the individual patients.[11]

Patients need to trust that they are safe while in the hospital. According to previous studies, a feeling of safety arises from the respectful and accepting attitude of the caregivers, the individuality and timeliness of the care, and nurses' presence and trustworthiness.[4,12,13] Being kept informed instils confidence, better enabling patients to participate in their own care. Additionally, assuming responsibility and control is likely to reduce stress and anxiety.[14] As Williams and Irurita found, interpersonal interactions have an impact on patients' potential healing.[13]

Between arrival and discharge, there are many challenges that need to be met in order to maintain and improve both the patients' safety and the continuity of their care. Nurses and other professionals need skills to increase patients' confidence in their recovery.[4,13,14] It is also important how the care processes are organized in a busy health-care setting. The reality of patients' care, when time matters, is the interest of this paper.

Aim

The aim of this paper is to describe the reality of patient care in acute care settings and what enables or disables patients' safe and high-quality care.

METHODS
Sample and data collection

The data collection was performed in a hospital district in Southern Finland. In the study, purposive sampling was used in selecting the wards and the participating patients. All the selected wards (two surgical, one oncological and one internal medicine) represented an acute care setting. The participating patients were adults, capable of making a decision regarding their participation. Additionally, despite the severe illnesses of the patients, their physical condition was not life-threatening. The patients' stay lasted primarily from 1 to 4 days but with some extending to 4 weeks. The study involved a total of 43 adult patients, with an average age of 61.4 years.

In order to show and understand the reality of patient care in an acute care setting, participant observation was chosen as the main data collection method.[15–17] Additionally, electronic patient records of the participating patients were examined in order to gain more detailed information about the specific events under investigation. Informal interviews with the patients and other interested parties formed part of the data. Such interviews are an integral part of social interaction in participant observation and their purpose is to focus the observations to get clarity in a given situation.[17,18]

The data were collected by the principal researcher in two phases, in 2007 and 2008, totalling 130 h of observation. These observations generally occurred in the morning shift, with each one lasting from 10 min to > 1 h. They consisted of events in patients' care activities, including associated actions involving nurses, relatives and other caregivers in daily connections. During the observations, the researcher jotted notes and later on the same day she transferred them into a field diary on the computer.[15]

Data analysis

The data were analysed by using the grounded theory method,[16,17] whereby the data collection and analysis occur simultaneously. The data analysis includes open, axial and selective coding by using a constant comparative method. In open coding, the written pieces of observation were broken up by using microanalysis; in this way the important details, such as the actions, emotions and roles, were shown.[16,17]

In axial coding, the purpose was to find relationships between the categories that emerged. The similarities and differences of the categories, their properties and dimensions, were compared. The paradigm model was used in order to connect the structure and process.[16,17] The data were analysed up to axial coding. The categories and subcategories that emerged are presented in Table 1.

Ethical considerations

The study was performed in accordance with the research policy and criteria of the concerned hospital district, with the approval of the district's ethics committee. After the ethics committee granted approval, the administrative chief doctors of the selected wards gave their concurrence.

Table 1 Categories with subcategories of the reality of patient care in acute care settings

Category	Subcategories
Patients' endurance	Significance of knowing
	Experience of being hospitalized
	Importance of significant other(s)
Interface	Dialogue
	Informing
	Working in collaboration
	Collaborative decision-making
Broken interface	Monologue
	Sidelining
	Decision-making without negotiation

Patients were the key informants; after being given written and oral information about the study, those who agreed to participate signed an informed consent. Additionally, they were informed that they could terminate their participation at any time. As in participant observation the researcher can be in interaction with many people, it is not feasible to ask informed consent from every participant. In this study, only the patients were asked to sign a consent form.[15] The ward staff and the relatives received both written and oral information about the study and their preferences were respected. All participating patients and staff were assured of confidentiality. Moreover, the findings were written in such a way that the participants were not recognizable.[15,17]

Credibility

The data were collected and analysed by the primary researcher. During the data collection and analysis, meetings with the co-researchers were held. The informal interviews with the participants and contemporaneous review of the electronic patient records of participating patients were an important source for deeper understanding of the events. During the data collection and analysis, memos were written constantly in order to reflect on and interpret the data and to increase credibility.[16,17]

RESULTS

In the text, the general term *caregiver* refers to any professional staff who were involved in the different actions. The specific profession of the staff member is mentioned when it is relevant. The examples from the field are based

on the researcher's diary notes. The findings show three categories (with further subcategories):

1. Patients' endurance. This category refers to the patients' ability to cope during the hospitalization.

2. Interface. This category explains different ways in which patients and caregivers interact.

3. Broken interface. This category explains the ways in which the interaction between patients and caregivers breaks down or in which the interaction is not for the benefit of the patients.

Patients' endurance
Significance of knowing

The patients' arrival at the hospital, whether elective or urgent, meant a step forward in gaining relief from symptoms and pain, as well as receiving solutions for their health problems. Even with an unclear future, patients expected to be safe and to get more clarity on their situation, whether the news was good or bad. Uncertainty regarding important questions, such as suspicions of malignancy or a possible 'life-threatening diagnosis', was itself painful.

The uncertainty produced a variety of emotions. When the care was in an early stage, unknown and unpredicted events caused tension and fear. Patients reflected these concerns when expressing their own feelings, spontaneously describing to the researcher their experiences, such as changes in emotions, anxiety, despair, depression and reluctance. They were speculating, looking back to seek the answers. Being aware and having up-to-date information were important as the puzzling questions were constantly in the patient's mind. Waiting and the accompanying uncertainty made the time feel long:

> Patient was anxiously awaiting information about the cancer operation. The nurse told her that the surgeon wouldn't come any more today.

At a later stage, the meaning of knowing changed. Good news brought trust, hope and energy for concentrating on recovery. Bad news, for example a cancer diagnosis, initiated new uncertainty and new treatments ahead. News also meant some kind of solution, although it did not necessarily mean leaving the illness behind. Often the patients needed to accept 'the lesser of two evils'. Although the treatment might have brought certain consequences, such as heavy medication, they could see the

new alternative as an improvement. Knowing also meant they had more control of their lives, even in situations that were not avoidable:

> *Patient was explaining the consequences of chemotherapy. In a few days she would feel miserably nauseated. 'But it doesn't matter when one knows it . . .' she noted.*

Experience of being hospitalized

The practical and cultural features in each ward had over the years evolved into a self-identity. They all had daily patterns that were formed according to the medical speciality or the patients the units treated. Those factors affected the behaviour of the staff, too. All four wards were unable to avoid haste or rush situations and sometimes being overloaded. The internal order was sometimes vulnerable, causing unexplained or unexpected waiting or confusion in patients' minds. However, even though the patients did not know anything about the ward beforehand, it seemed that they easily adapted to it, consciously or unconsciously. Patients assessed the organized or disorganized patterns according to how they were involved in them. They were sensitive to the hurried pace and compulsory timetable of the hospital, and this made many patients cautious in approaching the staff:

> *I was helping a patient in the shower. She commented about the itching underneath her wound dressing, which had started yesterday afternoon. She did not immediately ask the nurse to remove it. 'Why?' I asked. 'Because they were busy with the patients'.*

Patients observed, usually quietly, the staff's non-verbal signals. They recognized friendliness and unfriendliness as signs of acceptance or non-acceptance by the caregivers:

> *After 3 weeks in the ward, a patient was transferred to the health centre. On the morning of discharge she was telling me how this morning the doctor smiled at her for the first time: 'Probably because I am leaving . . .'.*

Importance of significant others

It was important for family members to be close to the patient, and vice versa, with all sharing the experience. The significant others' bond with the patient was taken into consideration in the wards through a welcoming atmosphere for the family presence. Visiting hours were open or flexible, and support from the family was encouraged. It seemed to be easier, practically and emotionally, for all parties to the care if family members were there. They often were present at the doctor's rounds, discussions with the nurses, patient teaching or discharging. If the significant others were not physically present, they were in the patients' thoughts and conversations. Patients worried about their own survival, but they often seemed to be even more worried about their family members' well-being:

> *Patient was waiting for the OR call for her cancer operation. I asked how she was feeling. She replied: 'I am fine, but the folks back home are not. It's them who I worry about'.*

Interface

Dialogue

The dialogue was a conversation between the patient and caregiver, including a two-way exchange of information, bringing new knowledge by questioning, listening and reflecting. The caregivers asked different questions about the patient's life and health–illness situation. Patients also had many questions about their unknown future and they were able to express their emotions and desires. Sometimes, it was difficult for patients to focus on the right questions, which is why the caregivers' skills for dialogue were important. A careful dialogue was focused and proceeded purposefully in an atmosphere of confidentiality. New knowledge helped both patients and professionals look to the future. In one of the wards, the care process for breast cancer patients was reorganized in a patient-focused way. On a preoperative visit approximately a week before the surgery, a dialogue began the process. It gave a good picture of the whole experience ahead.

Informing

Informing the patients included information, explanation and clarification; its target was to prepare patients for their tests and operations, and to define their own involvement in their care. It included not only instructions for care but also how to prepare for, or at least anticipate, the future. Information was interwoven into all phases of the care and it had its routine patterns in every ward. Patients benefited from focused and individualized information, in which their particular life situation was also considered. Even though patients were grateful for every piece of new knowledge, much happened in a short hospital stay and there was a danger that patients

were overloaded with new information. Even good and detailed information was less effective if the timing was not correct:

> *The nurse and a nursing student were discharging the patient. I was amazed at the detailed teaching. However, all this information came just an hour before the patient left for home.*

Working in collaboration

When discharged from the hospital, some patients' recovery was only beginning. Nevertheless, they needed many skills in order to survive as independently as possible. While in the hospital they had the opportunity to practise their skills. Practice even in small things, such as the activities of daily living—managing in the shower, getting out of bed, etc.—was significant. In a short hospital stay, there was no time to be wasted. It appeared that the earlier such practice started, the more confident patients were when they were discharged. While working together both patients and caregivers could assess the patients' skill level and the need for additional work. Even if the patients were not able to participate directly, collaboration was important. In those situations, nurses explained what they were doing and asked for patients' feelings and reactions:

> *The patient was changing his ostomy bag; this was still new to him, but he expected to manage with it in the future. The nurse was present, letting him act himself, making guiding and encouraging comments. Patient asked some questions and the nurse gave him practical and important advice. The nurse was supportive. In the end, they made a plan for what kind of practice the patient still needed.*

Collaborative decision-making

Collaborative decision-making was based on negotiations between the patients and caregivers. It included their common awareness of different alternatives and viewpoints. In order to make collaborative decisions and commitments, the patients obviously needed to have information on which to base their decisions. Such decisions concerned daily actions and routines, or setting goals and future plans for after discharge. Collaborative decision-making helped deepen the patient's commitment to her or his own care by putting some control into her or his own hands. When patients were aware of what their care involved, they were able to agree with the decisions.

Broken interface

Monologue

In a didactic monologue, the caregivers did not consider patients' viewpoints. It was limited or not targeted to the real facts that an individual patient actually needed. For example, an interview upon a patient's arrival represents a monologue, if patients are just asked questions without understanding their purpose. The use of medical terms or jargon was confusing. In such hurriedly performed actions—routine for the nurse but *not* for the patient—patients were only listeners, receiving information, but sometimes not understanding what they heard. In busy situations, the monologue was common:

> *On the day of discharge, the nurse took a stack of papers went to the patient's room and started presenting them to the patient. The papers were for practical issues such as insurance policy, prescriptions and sick leave. Patient had many questions, e.g., what to eat, how to take laxatives and pain medication, etc. The nurse answered tersely.*

Sidelining

'Sidelining' in patient care means occasions when the importance of the patient was minimized or neglected altogether by caregivers. Routinely performed actions occurred easily without focus or consideration, such as entering a patient's room without warning, or turning attention away from the patient. The 'intruder' did not care if something important or intimate with the patient was going on. The interruption was regarded as self-evident or natural. It showed the authority/subordinate relationship of the actors. Even important actions with the patients were interrupted if something more important appeared. If the caregiver's interest was led somewhere else, patients and their affairs were neglected:

> *In the first postoperative morning, the plan was to help patient get out of bed, simultaneously explaining the right way to do it. Already in this phase the nurse gave important advice, which was helpful later at home. Patient was actively involved, having many questions. Somebody entered the room telling the nurse to attend the doctor's round in the next room. She left, the precious time was interrupted . . .*

Decision-making without negotiation

There were situations in which decisions were not made in collaboration. Patients did not want to make decisions, as they trusted the professionals to make the right

decisions and were content with the result. It might have meant a decision in collaboration; however, it was not always clear if the patients had enough understanding about the causes that led to it. *A patient's quote: 'Oh, you know better anyway'.* Also, the caregivers might have thought similarly and just decided on behalf of the patients. It occurred self-evidently, without consulting with the patients. The patients' voice in care protocols was weak, with consequent conflicts and confusion.

DISCUSSION

This study indicated similarities with the results of previous studies. The presented subcategories are interwoven together and are dependent on each other for high-quality patient care. Most of the participant patients faced radical physical and emotional changes because of their illness and treatment. In patients' endurance, time changed the uncertainty to awareness, but new changes occurred constantly. The emotional changes reflected the level of information the patients possessed.[19] Knowing was significant for their personal control and emotional comfort.[13] The hospital environment plays a strong part in the patients' experience of success or failure.[4,5,9,13,20,21] Rules, routines and constantly changing schedules have an influence on how patients feel and act. Feeling safe and comfortable in the environment is a key issue for high-quality care.[13] The importance of the bond between the patients and families was understood by the caregivers, as shown by the caregivers' respectful attitude towards families in the hospital. They were regarded as emotional support for the patients and helpful resources for both patients and nurses.[22]

The category of endurance has a close connection with the other categories. The *interface* represented an essential element in patients' hospital experience. The dialogue was found to be a powerful means of interaction between the patients and caregivers.[23,14,24] As a reciprocal exchange of information, it both presented an opportunity for building a good knowledge base and deepened understanding along the way.[14,20,25] This study shows, as do others, that patients valued the time nurses spent with them.[4,14]

When the life situation might change often, even in a short hospital stay, all information is precious.[10] Informing is a precondition of patients' participation and self-care[14] and should be performed throughout the patient's stay.[10,14,23] It is a way to secure continuity.[26] This study shows the importance of working in collaboration at the bedside, as many minor factors became major when the life situation was changing. Patients needed to acquire many practical skills before discharge, as the short time in hospital was not enough to enable patients to fully recover.[10] Practising self-care in hospital helped patients become more confident in facing their future challenges.[10,14]

As observed in this study, time management was significant. Good interactive activities seemed less effective if they happened during or near the patient's discharge. There is a risk of being overloaded with information;[27] therefore, distributing the interface actions throughout the patient's stay—not only at the end—is important.[19,23,28]

Patients' decision-making is a legal right in many countries.[29,30,14,8] The emphasis on *collaborative* decision-making was to empower the patients to take responsibility, and, thus, to assure the continuity of care.[14] Collaborative decision-making was made possible by advance knowledge and understanding.[14,19,31] However, not all patients want to make decisions.[14,19,31] As found in other studies, too, either they wanted to trust in the professionals[14,30] or they did not trust their own judgements. That is important for the caregivers to know.[31,32]

In the *broken interface*, *monologue* showed that patients, with their life situation, were occasionally ignored. When nursing became hurriedly performed, routine actions, it was merely a series of tasks[5] with frequent interruptions[33] and patients as persons were disregarded.[34] *Sidelining* showed organization-focused behaviour, the strength of power and institutionalized thinking. It meant the importance of others over patients. Incompetent decision-making was a consequence of task-oriented thinking, where the purpose of health care was lost.[6,34] If routines are developed for the caregivers or organizations, the patients remain outside their own care and feel like they are on a conveyor belt.[5,8,9]

Conclusion

The participant observation offered an opportunity to see, hear, sense and feel the scene of acute care. It showed good instances of the delivery of safe and high-quality care even when time was limited. It also showed disabling factors where there are challenges for improvement.

In the current health-care setting, the length of inpatients' stay is short and the care process as a whole is fragmented. The findings of the study showed that, indeed, 'time is of the essence'. It is crucial for nurses and

other caregivers to use the time available to them with maximum efficiency, performing the right intervention or activity at the right time in order to provide the maximum benefit to the patients. It is important to have the patients and nurses as close to each other as possible.

ACKNOWLEDGEMENTS

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The impact of using electronic patient records on practices of reading and writing

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Abstract

The aim of this study was to investigate the use of electronic patient records in daily practice. In four wards of a large hospital district in Finland, 43 (N=43) patients' care and activities were observed and analysed in terms of the Grounded Theory method. The findings revealed that using electronic patient records created a particular process of writing and reading. Wireless technology enabled simultaneous patient involvement and point-of-care documentation, additionally supporting real-time reading. Remote and retrospective documentation was distant in terms of both space and time. The remoteness caused double documentation, reduced accuracy and less efficient use of time. 'Non reading' practices were witnessed in retrospective reading, causing delays in patient care and increases in workload. Similarly, if documentation was insufficient or non-existent, the consequences were found to be detrimental to the patients. The use of an electronic patient record system has a significant impact on patient care. Therefore, it is crucial to develop wireless technology and interdisciplinary collaboration in order to improve and support high quality patient care.

Introduction

Research into the use of electronic patient records (EPRs) has revealed multidimensional complexity. EPRs have been valued for, among other things, their legibility, i.e., the absence of unclear handwriting.[1, 2, 3, 4, 5, 6] Typed documentation is also a patient safety benefit because of increased readability[7].

A further advantage is the easy accessibility of EPRs for health care professionals. As a communication tool among these professionals, written notes can be read remotely, which may help interdisciplinary collaboration in patient care and thus make the care faster, more flexible and more beneficial to the patient care process.[8] The organisation of patient charts has been mentioned as an advantage in two ways; first, in how the charts are organised and thus how the needed information can be found, and secondly, by saving a lot of time, in not having to find lost paper records. In this sense chart organisation means easier access to the information needed[8].

In implementing information technology (IT), attention to structured documentation has simultaneously brought an increase in accuracy and quality[9, 10, 11, 12], also facilitating the decision making process in patient care[13]. Studies which report on educational interventions of standardized documentation have shown improvement in accuracy, by means of high-quality computerized documentation in various areas[9, 10, 11, 12].

Despite the successful outcomes of structured documentation, it has also been found on occasion to be inaccurate and inadequate[9, 10, 12]. Nurses have complained that standardisation prevents them from individualising patient care. It also makes it difficult to document particular incidents since finding the right terminology to describe a situation can be challenging[14]. Moreover, using structured documentation can be time-consuming, both in writing and reading, if the amount of written information increases but is not necessarily useful for its purpose[15]. This, however, it is not the fault of the structured documentation *per se* but of the sheer amount of written text. A lack of structure can result in important information being missed, and focus lost, because of reporting unnecessary data.[8, 15] Paans et al. (2010)[5] suggest that in order to improve the accuracy of the EPRs, the structures need to have flexibility and supplementary resources, for more efficient e-documentation.

Documentation needs to fulfil legal requirements and to be transparent[16, 17]. The Finnish Act on patients' rights[16] requires a patient-centred approach, since self-determination is a crucial part of patients' care and documentation. At the same time, there are pressures on current health care, such as the reduced length of patients' stay in hospitals[18] and frequent transfers from one care facility to another[19, 20]. Also, the time for using the computers in health care is limited[17]. A response to meet these challenges can be found in wireless technology, which supports point-

of-care (POC) documentation, providing an effective tool for real-time information transmission[21], whereby any problems can be promptly identified and addressed. POC applications can be utilized in clinical decision-making right at the bedside[22] and, for example, increase efficiency in the administration of medication.[23] However, computers at the bedside have been found to be inconvenient because of environmental and system barriers[2, 24, 25]. Documentation at the bedside in a crowded room can be inconvenient and disruptions in patient care have been reported[2].

In addition, nurses raise concerns that complicated computer systems distance patients and nurses from each other and thus allow less time for direct nursing care [26, 25]. Computers' physical location in the ward office not only distances nurses from the patients but also leads to more oral communication, resulting in loss of information[9]. Also, computers are not necessarily provided for every nurse who takes care of the patients[2, 25]. This means that nurses need to wait their turn to be able to do their documentation[2, 25, 6], or must compete with other professionals in order to use the computers[14]. Consequently, nurses sometimes end up with a habit of first writing their notes on a scrap of paper and later transferring the information to the computer[26, 27, 9, 28]. The scraps of paper may contain information, which might be important for the patient's care but which does not always end up in the documentation[27, 3]. Moreover, this kind of double documentation also increases documentation time[26, 27, 9, 3]. Finally, complex computer systems can cause increased workload and thereby negatively affect the attitudes of health care professionals toward those systems[6, 29].

IT in patient care has clearly changed the daily practices of nursing. But the success of an IT system in and of itself is not enough; one also needs to assess who benefits from that success[30]. Ever since the time of paper records[31], there have been expectations that EPRs would make nursing documentation more patient-focused and beneficial for patients. According to Vikkelsoe (2003)[32], the assumptions are that information exchange in EPRs improves communication between professionals and thus improves both the quality of patient care and the coordination across organisational boundaries. However, the psycho-social aspects of documentation and involvement of patients in their care are weakening.[32] One can only hope that this is simply a matter of time. When the IT technology improves, and nurses get more accustomed to using it, the distance between the patients and nurses decreases and nurses have more time for patient care.[25]

Because of the complexity of daily practice, there needs to be more focus on the relationship between e-documentation and patient-focused care. To provide continuity of care, an understanding of patterns of information exchange between and within organisations is crucial[20]. The importance of exploring working practices has been emphasized[30, 11]. Because of the issues mentioned here, this study takes the matter directly into the field of nursing by using participant observation in acute

care settings, with the aim of discovering what impact the use of EPRs has and what kind of daily patterns in the exchange of information can be unveiled. Participant observation was chosen specifically because it can uncover the daily reality on the ward, allowing us to see the reality behind what participants say and don't say, or, indeed, are not even able to articulate[33].

Methodology

Patient care events, different daily practices and related use of EPRs were observed in four acute care wards. The primary researcher made all the observations. The style of observation varied from the researcher's participation in events to simply watching the events from the side. Social interaction was an integral part of being in the field and communication with the participants involved discussions and informal interviews, which are a natural and central part of observations.[34, 35] They focus on asking straight or open-ended questions, gathering explanations, and clarifying situations[34].

Logging data in the field, the researcher usually jotted notes or occasionally wrote the text directly on a computer[35]. The notes were transcribed to the computer as soon as possible, never later than the same night after the event or the following day. This was an opportunity to reflect on the daily events and identify any need to return to the field and gain more information about the subject.[36, 33]

The data were analysed according to the Grounded Theory method as formulated by Strauss and Corbin[36, 33], which includes open, axial and selective coding. Data collection and analysis occurred simultaneously and a constant comparative technique was used. In open coding, the written data were broken into details forming substantive codes. In this study, such microanalysis was employed to gain enhanced insight into the observations. Using microanalysis, the pieces of data were broken down to uncover minor particles of observations. Data were asked multiple questions such as 'what is going on?', 'who are the actors?', 'what is an actor doing?'.[33, 36] As data collection and analysis proceeded, the codes were grouped into categories with particular properties and dimensions. Finally, the categories were given more meaningful names.[33, 36]

In the axial coding, the data were reorganised. The created categories were constantly compared and structured according to how they related to each other. The observations were also compared to the data from written patient records in order to increase the understanding of how a single observed event was part of the whole care process.[33, 36] At the beginning, the data collection and analysis followed the inductive approach. As the process went further, an exchange of induction and deduction took place, when the comparisons were investigated. By connecting the structure and process, the paradigm model[33, 36] was used. Additionally, the

conditional relationship matrix by Strauss and Corbin (1998)[36] and Corbin and Strauss (2008)[33] as well as Wilson Scott and Howel (2008)[37] was adapted for the analysis. The exchange of information was then described under the categories 'writing' and 'reading', with their subcategories—which are presented up to axial coding as findings of this study.[33, 36]

Sample and setting

The interest of the study was in acute care settings, in order to gain an insight into somatic wards where the patients stay was short; the patients' average hospital stay varied from 1 to 3 days, with some exceptions (up to four weeks). Thus, purposive sampling was used when choosing the study sites and informants. Table 1 illustrates the nature of the wards.

Table 1.   Description of the wards

Ward	Type	Patients (most common)	Patients per nurse (morning shift, approximately)
Ward D	Surgical	Elective patients Emergency patients	3-5
Ward O	Oncological	Elective patients	3-5
Ward C	Medical	Emergency patients	3
Ward U	Surgical	Elective patients Emergency patients Transfer patients from other hospitals	3-5

All the wards were responsible for acute care patients, and they had both similarities and differences regarding their delivery of patient care. One significant common feature was the speed of the care processes. At the time of initial data collection, the EPR system had been in use for almost two years in every ward studied, but it was still in constant development. The continuous patient history was available both in electronic format and on paper but some information, such as charts and graphs, existed only in a paper version.

Every ward used the system in its own adapted way. The software menu was planned to be a multidisciplinary tool, following the process of patient care. There

were both fixed and mobile computers for staff use. The fixed computers (desktop) were located in different rooms, such as nursing or doctors' offices and in consultation or examining rooms. The mobile computers were laptops placed on wheeled carts. They were of a suitable size for moving through the ward corridors, offices and patient rooms. Their use everywhere was dependent on a wireless signal, for which coverage was limited. Sometimes the network system caused frustration because of slowness or 'downtime', especially concerning the mobile units. Constant efforts were made to improve the system.

In all four wards, desktop computers were available in the offices. In Ward D, nurses and doctors were provided mobile computers for their daily use. In Wards O, C and U, some mobile computers were available and were used mainly on doctors' rounds.

Due to differences in the use of EPRs and in the daily practices of the wards, the data were collected purposefully. The amount of data differed among the wards. In the second year of data collection, one of the wards (D) had changed its nursing practices; thus, more data were collected on this particular ward in order to reach an adequate data saturation.[33, 36] A total of 43 (N=43) adult patients were involved in the study. The patients were admitted to the hospital for medical procedures, e.g., operations, tests and treatments. Table 2 summarises the observations on each ward.

Table 2.   The observations on each ward

Ward	Number of patients involved (year 2007/2008)	Approximate time spent in observation on each ward
Ward D	n=17 (7/10)	51 hours
Ward O	n=8 (5/3)	25 hours
Ward C	n=9 (6/3)	27 hours
Ward U	n=8 (5/3)	24 hours
Total	N=43	127 hours

Findings

Use of EPRs in the acute care wards formed a complex process. Two categories, writing and reading, were observed, along with associated subcategories. Writing and reading both occurred simultaneously. However, there were temporal and spatial dimensions which affected the consequences of patient care. Therefore, the categories are presented individually. Examples of field notes and EPRs are presented in the text in *italics*.

All four wards had similarities and differences using EPRs in daily practice. Computers were provided to nurses; however, in only ward (D) were a sufficient

amount of mobile units provided for nurses' use. Even though wards C and U did have a few mobile computers for use by nurses, the nurses normally did not use them. Rather, they used the fixed computers in the nursing office. Doctors used their own mobile computers on their rounds, mainly writing the daily orders on them. This gave the nurses an opportunity to use the updated information and carry out the orders.

The exception was ward O, which in the first year of observation was located in the old hospital building. Due to the weak signal coverage in the corridors, only fixed computers were provided for the professionals' use. By the second year of observation, ward O had moved to a new building. However, all of the computers observed there were fixed and located in the nursing offices. In none of the wards were the processes described in these categories applied systematically; rather, these are patterns that were uncovered in this study setting. Table 3 shows the general similarities and differences.

Table 3.   Similarities and differences of using EPRs between the wards

Writing EPRs—*Point of Care e-Documentation (POC e-Doc)*			
Ward	On doctors' rounds	Bedside	In meetings with patient
	by doctors	by nurses	by nurses	by nurses

Ward	On doctors' rounds by doctors	On doctors' rounds by nurses	Bedside by nurses	In meetings with patient by nurses
D	primarily	primarily	primarily	often
O	N/A	N/A	not found	not found
C	primarily	not found	not found	not found
U	often	not found	not found	not found

Writing EPRs—*Documenting remotely and retrospectively from the patient*			
	e-documentation by nurses distant from the POC spatially and temporally			
D	At times			
O	primarily			
C	primarily			
U	primarily			

Reading EPRs—*Timely reading*			
	Reading EPRs before reaching the POC by doctors and nurses			
D	primarily			
O	infrequently			
C	primarily			
U	primarily			
	Reading EPRs at the POC			

	On doctors' rounds		Bedside	In meetings with patient
	by doctors	by nurses	by nurses	by nurses
D	primarily	primarily	primarily	primarily
O	N/A	not found	not found	not found
C	primarily	not found	not found	not found
U	primarily	not found	not found	not found

Reading EPRs—*Non-timely reading or non-reading*			
	Remote and/or retrospective reading from the POC spatially and temporally			
D	at times			
O	often			
C	often			
U	often			

Reading EPRs—*Too little or nothing to read*			
D	at times			
O	often			
C	often			
U	often			

Writing EPRs

Point of Care e-Documentation (POC e-Doc)

Point of care (POC) in this study refers to the location where various patient-focused events occurred. POC e-Doc was done in different situations, such as at the bedside or in offices in simultaneous conversations between the patient and the professional. Incidences of POC e-Doc included admissions, doctors' or nurses' rounds, or care procedures. Since the interest was in the patient-focused nursing care and documentation, the point of care and related events were observed specifically in relation to the patient care.

The doctors took the mobile computer to the bedside and wrote their orders and annotations for future care directly on the computer, while interacting with the patients. Patients participated by expressing their own perspectives, emotions and wishes, as well as by asking questions or explaining their health history. POC e-Doc assured that the documented text was ready to re-use and especially that the care plan was ready to proceed. The next field diary description illustrates an event from the doctors' round.

Example.   The roles and actions at the POC e-Doc

The nurse and doctor entered the patient's room, both having their mobile computers along. The doctor stood next to the patient's bed, while the patient was lying there. The patient's husband stood on the other side of the bed. The nurse with her mobile computer stood nearby, on the side. Patient and doctor had a dialogue, in which the patient's spouse also participated.

The patient and the doctor updated the patient's situation, tracing back the operation, its causes and consequences. The patient and her spouse posed intensive questions such as "why?", "what if?", and "is it possible?" The doctor answered, giving detailed information, asking additional questions and browsing at the same time through the information, such as lab results, on the computer. The patient and doctor made an agreement about future actions, including plans for the patient's discharge. The doctor wrote new orders and recorded their decisions on the computer while discussing them with the patient and her spouse. The mobile computer was thus like an open book.

Afterwards I talked with the patient and her spouse. She spontaneously evaluated the previous event, expressing her satisfaction. Both the patient and her spouse emphasized that with mutual understanding it was easy to proceed. Two mobile computers in the room simultaneously did not attract any attention.

During the doctors' rounds on this ward, the nurses documented simultaneously, on the second computer, how the patients' care had proceeded, including the interpretation of lab tests, etc. The nurses did not repeat the doctors' orders or their words; their purpose was to observe and write down in the EPRs what the patients were told, what they knew about their situation and how they received the information. This was a way to assure the continuity of care and thus to give to oncoming nurses a point of departure for how they should proceed in this particular patient's care.

> I discussed with the head nurse of the ward the purpose of the nurses' e-documenting simultaneously. She explained that in this way the nurses were aware, for example, of what the patient already knew about his/her situation and what kind of information the oncoming nurses should explain or teach to the patient later on.

POC e-Doc also took place at the bedside, where nurses took the mobile computer to review the patients' status with him/her while simultaneously writing notes on the EPR. This was a reciprocal way to ask and answer questions in order to increase information in the EPR about the patients' situation.

One mode of POC e-Doc was in pre-operative meetings between patient and nurse. The purpose of the event was to exchange information regarding the patient's upcoming surgical procedure. In the private office room where the pre-operative meetings were held, the seats of both the patient and the nurse were located in such a way that the computer screen was easily visible by both parties.

In one of the wards, patients arrived from the emergency room with the need to get a clear diagnosis, so as to find the right treatment for them. The patients generally had a complex history of co-morbidities. In their rounds, the doctors talked to the patients, asking multiple questions in order to get as thorough a picture of the situation as possible. The previous history (such as co-morbidities) provided background information, which pointed to ways to get more information, such as lab-tests or other procedures. The detailed probing discussion using simultaneous background information and documentation in the EPRs was an effective method for up-dating, and acquiring more, written information.

> The doctor's questions were numerous, detailed, diverse, accurate and holistic. She did some clinical examinations, such as palpation and auscultation of the lungs, while at the same time explaining the purpose of her questions, and bringing into the discussion the lab test results and various alternatives, using understandable language. The patient's own views were considered important and he was actively involved in the discussion. Simultaneously, the doctor's findings and orders were documented on the computer. The discussions were intense, almost like interrogations, but always with the goal of the patient's well-being.

Documenting remotely and retrospectively from the patient

Another mode of *e-documentation* that was found occurred away from the patients. Remote *e*-documentation was distant from the POC in two ways: space and time. Nurses usually gathered to work on the computer—whether mobile or fixed—*in the nursing office*. The offices were busy places with constant disruptions. As a consequence, the nurses' concentration was distracted away from the patients' affairs to other matters. The nurses worked on the computers many times during *their shift*. They also updated necessary information on the paper flow-sheets or other paper forms. They commuted between the patients' rooms and the office in order to ask additional questions and thus complete the necessary information.

At POC, the nurses wrote short hand-written notes on a piece of paper, from which they later transferred information to the EPRs. This was a pattern in various events, such as on doctors' rounds, when interviewing a new patient, at the bedside asking some information from the patients or on end-of-shift handovers. Memo-notes were also used by nurses as checklists of things to do, taking information for themselves from the computer, usually at the beginning of the shift or in connection with urgent occasions. Many nurses wrote paper notes even though the computer had been available in the room where the event took place. These notes had an effect on every-day patterns, regarding how the information was held and maintained. They were unofficial yet important tools for nurses in every-day practice which, at the end of the shift, ended up in the trash basket.

> When I asked why the nurse did not write straight on the computer, she mentioned the slowness of the documentation system on the computer and that there were 'too many clicks.'

Nurses were responsible for approximately three to five patients in one shift, some of whom were admitted, some discharged, and some taken to or returning from procedures outside the ward. In regard to observations of these different events, the time of the documentation varied. Other than those which were documented at the POC, the time lapse ranged from approximately a quarter of an hour to six or seven hours, which was at the end of the nurse's shift. The peak time for documentation was in the afternoon. Some of the nurses mentioned that the time for documentation was "when all the other work had been done". The information from memo-notes written earlier was only *at this time*, retrospectively, transcribed to the computers. This meant that the documentation was sometimes performed after the handover to the next shift. Observed from the morning shift, each ward had its own practice of end-of-shift handover. The observations in this study revealed the following end-of-shift handover modes, which are presented in Table 4.

Table 4.   End-of-shift handovers

Ward D	Off-going nurse reports to the on-coming nurse from the computer screen (mobile or fixed).
Ward O	Off-going nurse reports to the on-coming nurses from memo-notes or from paper records.
Ward C	Off-going nurse reports to the on-coming nurse from the computer screen (fixed).
Ward U	On-coming nurse reads independently about the patients' situation from the computer screen. The off-going nurse is still on the ward and available for supplementing the information and answering the on-coming nurse's questions.

After a busy morning the nurse did not have time to put her documentation on the computer until after the shift change. First she gave an oral report to the on-coming nurses from her notes and also from the paper-charts describing the patients' medical history.

Reading EPRs

Timely reading

In this study, timely reading was found to occur before reaching the POC and at the POC. By means of timely reading of EPRs, nurses and doctors oriented themselves to meet the patients, in order to learn the patients' health situation and needs for care. Those situations were revealed before meeting the patients, such as on doctors' rounds, planned nursing care, pre-planned interviewing of patients (e.g., in admissions) or on-going nursing shifts.

The medical and nursing viewpoints on patient documentation were different. In the best case scenario, all professionals benefited from relevant and real-time documentation and reading because it made the care paths smoother. Characteristic incidents were, for example, where the nurse had explained the patient's symptoms in the EPR. Later, the doctor used the nurse's previously documented EPR text as background information while reading the EPR at the patient's bedside.

Timely reading at the POC was observed, for example, when nurses were discussing the care plan with the patients. Those events were usually in admissions

or in pre-operative meetings, which occurred a few days or weeks before the surgical operation. The patients' previous history in EPRs complemented the interviews, and was important in bringing out potential safety issues.

> *At the patient's pre-operative meeting, the patient and a nursing student had an extended conversation before the operation. In the background, the nurse was simultaneously reading the patient's history of previous operations. She found out that the patient still had a metal plate in her leg. This information was important regarding the coming operation, and thus improved the patient's safety.*

Timely reading also occurred as the on-coming nurses received the end-of-shift report. Nurses spent time reading the EPRs of the patients who were assigned to them. In the end, the off-going nurse was still on the ward and available to complete the information. In another observed ward, both on-coming and off-going nurse reviewed the EPRs together. Even though this kind of timely reading was meant to be helpful for gaining information, it happened remotely from the patients, usually in the busy nursing office with other distractions.

Non-timely reading or non-reading

Remote and/or retrospective reading was distant from the POC spatially and temporally and took place at times when there were no other routinely programmed plans or acute events. This was also a way to become familiar with the patient and his/her care. As well as remote writing, non-timely remote reading also led to incidents where the delayed reading meant that the patient's care was also delayed or even omitted.

> *In the middle of the shift, a nurse noticed in the EPR that the patient should have been prepared for a scheduled radiological procedure. However, the time had passed and the patient missed the procedure. The nurse protested that, at the handover, "nobody mentioned about the patient's procedure".*

Non-timely reading occasionally caused unnecessary hustle and bustle, resulting in many extra steps, questions to patients and other professionals, phone calls and confusion. As a consequence, this meant extra work for the staff, causing a number of hurried situations and taking time away from more important issues.

> *The patient was ready to go home, but some discharge information from the doctor was missing. Nurses tried to contact the doctor they thought should discharge the patient; they asked around and made phone calls. After a couple of hours, the nurse*

eventually read the patient's EPR. She found all the discharge papers already written from the previous day, because the doctor was not scheduled to be at the hospital on that day. Meanwhile, the patient was waiting and was eager to go home; he waited in vain only because the EPR-text had not been read. Everybody's time was wasted.

Similarly, e-documentation was sometimes not read at all by the health care professionals even when it was available (i.e., non-reading). This *consequently* led to situations where patients were repeatedly asked the same questions by various professionals, even about things which had already been decided or resolved. For example, one patient was asked how her wound should be treated, even though that procedure was described in the notes. Professionals, both nurses and doctors, were frustrated when they had written careful documentation and later noticed that this careful documentation had not been read by their colleagues.

Too little or nothing to read

Situations arose when the professionals were seeking specific information but nothing—or only a little—was documented. In this situation both nurses and doctors questioned each other because missing documentation affected complicated aspects of patient care. Missing documentation entailed many repeated questions and extra work—the same kind of situations as noted in the previous category. It also resulted in a deviation from the direct path of the patients' care, since missing or insufficient information interrupted that care or misdirected it. There was also a lack of information about patients' sensory dysfunctions, such as hearing, which caused communication problems *in important interactions*. Such information would help daily life interventions in both nursing and medical care. The following two examples from nursing documentation illustrate this difficulty.

The sentence '*Patient teaching has been given*' tells that the nurse has taught the patient, but an assessment of the teaching situation is missing.

Missing information about the specific details of a patient's transfer to another ward: '*To be transferred to another ward.*' was the only written sentence about the issue.

In the ward U, which regularly received transfer patients from other hospitals, missing information regarding EPRs emerged. Due to the different computer systems between two hospitals, EPRs were not available for reading. Paper prints and even hand-written reports followed transferred patients, with varying levels of information. However, nurses expressed their worries regarding insufficient information. The findings are summarised in Table 5.

Table 5. Summary of the findings (adapted from Wilson Scott and Howel [2008] and modified for observational data)

WRITING EPRs—*Point of Care e-Documentation (POC e-Doc)*

Where	When	How	With what consequences
At the bedside; When meeting / collaborating with patients	On doctors' rounds; In discussions with the patients	Nurses and doctors documented on mobile computers simultaneously at POC	Concurrent patient involvement. Text ready for re-use.

WRITING EPRs—*Documenting remotely and retrospectively from the patient*

Where	When	How	With what consequences
Away from patients; In nursing office/ outside of the patient room	After POC; Time delay from 15 min to 6-8 hours	First at POC nurses wrote hand-written memo-notes, transcribing later to the computer.	Disruptions interfered with concentration in writing. Possible changes in descriptions of patients' state; Delay with information. Risk of not having time for documentation.

READING EPRs—*Timely reading*

Where	When	How	With what consequences
At the bedside; When meeting / collaborating with patients	Before reaching the POC; At the POC	Nurses and doctors oriented themselves to patients' situation.	Up-dated information was background, helping to form a genuine, more detailed description.

READING EPRs—*Non-timely reading or non-reading*

Where	When	How	With what consequences
Away from patients; In nursing office / outside of the patient room	After POC; Time delay from 15 min to 6-8 hours	Nurses oriented themselves to patients' situation with a time delay.	Patients' care was delayed or omitted. Patients' safety at risk.

READING EPRs—*Too little or nothing to read*

Where	When	How	With what consequences
Needed information was missing or insufficiently documented in EPRs	When needed for patients' care.	Professionals were seeking information but could not find it.	No grounds for patient care. Patients' care was delayed or omitted. Patients' safety at risk.

Discussion

Credibility

The principal researcher had experience in the field of clinical nursing. Thus, she had an insider's advantage to "intuitively recognise situations that are sensitive" [38] p.312. In the field, she chose to write notes out of sight of the participants. This was based on the thought that the hectic environment was full of stimuli, and making notes in private seemed to be the least disruptive way of data logging.[38] Throughout the study, the researcher simultaneously collected, analysed and interpreted the data. Writing constantly in the field diary helped to increase the understanding of the data. The co-researchers were involved in reviewing and reflecting on the collected data and analysis. Also, microanalysis as part of the data analysis was utilised in order to gain as detailed an insight as possible. This contributed to increasing the credibility of the study as a whole.[36, 33]

Ethical considerations

The study was conducted in accordance with the research policy of the hospital district[38]. The ethics committee of the hospital approved the study; all the participating patients and staff on the wards were informed about the study both verbally and in writing. Participating patients signed an informed consent to confirm their agreement[38]. Only patients whose physical and mental status was stable were involved in the study. Thus, all the participant patients were capable of making their own decisions regarding their participation in the study. They also knew that they could withdraw from the study at any time. Confidentiality was assured for all the participants.[36, 39, 33] Therefore, based on the promises of confidentiality to the local ethics committee and the wards, no names or symbols of the wards are mentioned in the examples[35].

Findings

In the processes of writing and reading EPR-documentation, all of the observed wards had similarities and differences. Common characteristics were, for example, the fast pace and daily patterns of the care processes. Doctors' e-documentation also had similar patterns in three of the four wards. Comparing the nursing e-documentation on all four wards, only in ward D was POC e-documentation significant. In this ward, mobile computers were provided for nurses, thus making timely writing and reading—along with timely patient care—possible. When the information was written without delay, it was direct, i.e., without interpretation and

with less susceptibility of erroneous recollection. Developing and/or supporting wireless devices at the POC provided good, precise results in patient care and thereby improved the safety and quality of nursing care.[22, 21] Additionally, just as previous studies have emphasized the importance of patient involvement in their own care[40, 31, 19], the findings in this study suggest that wireless documentation at the POC allows an opportunity for patients to be involved: from their perspective on their history, through assessment of their current status and on to decision making regarding future plans. In her study of care plans in paper records, Mason[39] reached similar findings in one of her research wards. As witnessed in this study, an important benefit of electronic documentation is the availability it affords for immediate and continuous use of the written text. Furthermore, writing information at the POC avoided a need for retrospective documentation or recalling[40]. This is an important concern for developing the care processes when everywhere in health care the staff are struggling with time and speed.

Coherent with the findings in this study, issues regarding remote or retrospective documentation have been apparent in previous studies of computerized documentation[9, 2, 24, 23]. Instead of documenting directly on the computers, nurses resorted to scratch-paper notes. The information these notes contain often is wasted by being thrown away, or at least it is not fully utilised for the benefit of patient care.[26] The remote mode of doing the documentation occurred when the computers were located in nursing offices or distant from the patients[9]. In previous studies, nurses have indicated their concern about constant disruptions, distance from the patients and less time for patient care. Nurses share their time with several patients during one shift, and are also responsible for many other indirect tasks.[2, 24, 23, 6] Those consequences were also seen in the present study. All of these factors can contribute to a situation where oral transmission of information leads to loss of information[9]. Congruently, this study suggests that disruptions and distance mean a discontinuity of care, which can lead to inconsistency in patient treatment.

Even in ward D, where mobile computers were provided for nurses, at times they gathered together in the nursing office to update the EPRs. Understandably, in order to make a picture of patient care and how to proceed in it, some remote reading was necessary, e.g., in handovers or admitting incoming patients. However, this study discovered occasions when patient care would have been more up to date and more consistent if the reading had occurred in real time at the POC. In any case, it was evident in this study as well as in others that using EPRs, whether writing or reading, in an environment with constant disruptions and distractions distanced the nurses from patient care.[26, 2, 24, 25]

With timely reading at the POC, the professionals were effectively able to review and get up to date with the patients' situations. Some of the observations in this study indicated that timely reading and concurrent interaction with the patients

gave a valuable opportunity for collaborative decision-making between the patients and professionals and consequently improved patients' involvement in their care.[40, 31, 19]

Investigating the use of EPRs revealed that the 'non-reading' practices of some professionals caused a lack of communication among members of the multidisciplinary team, resulting in frustration for all who were involved in the care[23]. Non-reading habits meant that precious time was squandered. Even the non-read text finally was read; however, the fact of initial non-reading meant that when the reading was eventually done it may have been too late for its purpose. In those circumstances, when the reading was delayed, the process of patient care was delayed.[4, 15]

A similar situation obtained in the category of 'too little or nothing to read'; essential information was not written at all or it was documented insufficiently. When the time of documentation was left for the end of the shift, or nurses' work was in other ways disrupted, there was a risk that accurate documentation was not written at all.[9, 2, 41] As merely oral communication has been found ineffective[9], the focus for more timely and accurate documentation is a serious need for health care. Insufficient or completely lacking documentation creates difficulties for the interdisciplinary team; consequently, the patients in their care are those who suffer the most.

Based on the findings, more research is needed of the e-Documentation in acute care from the patients' point of view. One suggestion is to investigate how structured documentation can support patient-focused and POC documentation. It is also suggested for further research how the patients' perspective could assume priority in EPR documentation.

Limitations

This study has several limitations. Participant observation requires time in order to gain an understanding of the subject of interest. Therefore the limited amount of patient care observed can be one of the limitations of the study. Also, having two participant observers, instead of only one, could have given deeper insight into the process. In addition to the revealed pattern, focused interviews with professionals could have given more profound findings.

Conclusion

This study found that using EPRs in a timely manner at the POC has a pronounced impact on writing and reading and therefore improving the quality, safety and continuity of care. It facilitates patients' own involvement in their care and

increases accuracy. Nurses and the other professionals at the POC have an opportunity to collect, process and transfer information for timely care. Thus, wireless EPR systems support patient-focused care; therefore, it is crucial to make the use of EPRs as flexible as possible, in terms of both time and place.

It is obvious that electronic documentation is an interdisciplinary tool. The results of many previous studies and the observations of this study regarding the use of EPRs to greater or lesser effect lead to the conclusion that health care organizations need a serious collaborative discussion. Interdisciplinary professionals need to agree on the 'who, what, when, where, why and how' of documentation in order to support the safety, quality and continuity of patient care. Different professions have their own domains of knowledge, and sharing information collaboratively in the best interest of the patient is crucial. If everyone has a common understanding of the use of EPRs and proceeds accordingly, benefits will accrue to both the writers and the readers of electronic documentation in fragmented modern health care systems, where time is precious. In order to develop the use of EPRs, therefore, there needs to be a simultaneous emphasis on developing all the processes of health care in a patient-focused direction. In the daily pattern, this needs to be facilitated, which is an administrative responsibility.

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Methodological tools for data collection and analysis of participant observation, using the grounded theory method in nursing

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Abstract

Aim To give clarity to the analysis of participant observation in nursing when implementing the grounded theory method created by Strauss and Corbin.

Background Participant observation is a data collection method revealing the reality of the daily life in a specific context. It is used extensively in ethnography. In grounded theory, in turn, interviews are primarily used as the data collection method. The observations give a distinctive insight, revealing what people are doing and how they are behaving instead what they are saying. However, more focus is needed on the analysis of participant observation.

Data sources To facilitate the analysis, the following methodological tools are discussed; an observational protocol, jotting of notes, microanalysis, the use of questioning, constant comparison and writing and illustrating. Each tool had specific significance in the process of data collection and analysis, working in constant interaction.

Discussion Grounded theory and Participant observation supplied rich data and revealed the complexity of the daily reality of acute care. In this study, the

methodological tools provided a base for the study both at the research sites and outside. The process as a whole was challenging; it was time-consuming and it required rigorous and simultaneous data collection and analysis, including a reflective writing process. Using these methodological tools helped the researcher stay on the path in the direction from data collection and analysis to theory building.

Introduction

The purpose of this paper is to discuss the analysis of participant observation (PO) in nursing using the grounded theory method (GT). The paper emerged from a perceived need to clarify the analysis of observations. The authors argue that analysing interviews and observational data reveals similarities but also differences. Interviews are the primary data collection method in qualitative research (Nunkoosing 2005, Gill et al. 2008); thus, the focus in qualitative research textbooks is often on interviews (Sandelowski 2002). The discussion in this paper is based on an observational study carried out in order to gain awareness of nursing care and its electronic documentation in four acute care wards. The aim was to discover the relationship between nursing care and its documentation in EPRs in the acute care wards. To that purpose, the researcher observed the daily care and how, where and when the documentation of that care was written. The study was conducted in a hospital district of southern Finland providing tertiary-level services to one million people. Approval for the study was obtained from the hospital's ethics committee and their guidelines were followed.

Background

The emphasis of PO is on understanding and describing meaningful social relationships and their various phenomena and cultural perspectives. It is widely used not only in ethnography, but also for purposes other than only cultural perspectives. (Germain 2000.) Charmaz (2006) differentiates ethnography from GT, saying that ethnographers collect data widely and everywhere, while GT researchers direct their observations to more focused and more specific topics. Also GT provides an organised structure for the PO. (Charmaz 2006.) Charmaz uses the term 'grounded theory ethnography' to explain that researchers in the field study 'what is happening in the setting and make a conceptual rendering of these actions' (Charmaz 2006, p. 22).

PO allows the researcher not only to see what people do but also to compare what they do with what they say they do (Kemp 2001, Mulhall 2003, Corbin and

Strauss 2008). Observations give information about the physical environment and its patterns, the behaviour of people and the interaction between them (Mulhall 2003). The observer can also notice features which other people or participants cannot see. It is useful especially in areas where people cannot speak, e.g., with young children or some elderly. (Mulhall 2003, Foster 2006, Carnevale et al. 2008.) Also, pure interviews produce the results of the lived experiences of the participants but not the clear social context (McCann and Clark 2003).

In PO, the aim of the researcher is to understand the observed reality as it is (Dewalt and Dewalt 2002, Leininger and McFarland 2006, Bryman 2012). The role of the researcher has been widely classified according to the level of involvement of the researcher in the field and many definitions have been presented (Savage 2000, Dewalt and Dewalt 2002, Moore and Savage 2002, Mulhall 2003, Bryman 2012). Dewalt and Dewalt (2002) define the levels as passive, moderate and active participation. Bryman (2012) classifies the involvement as participating, partially participating, minimally participating or non-participating observer. In their work on ethnonursing, Leininger and McFarland (2006) bring up similar levels but emphasise listening and reflection. It is crucial that the participant observer uses all his or her senses and pays attention to the emotions, interactions and complex feelings of the environment (Savage 2000, Sandelowski 2002, Lofland et al. 2006).

The purpose of GT is to create a theory based on qualitative data. Symbolic interactionism has a strong influence in GT (Strauss and Corbin 1998, Corbin and Strauss 2008). It starts with the assumption that human beings interact with their physical and social environment and create meanings according to their interpretations of such reality (Blumer 1969). The aim of the research process is to clarify the complexity of social life and human experiences, and in the present study the GT approach of Strauss and Corbin (1998, 2008) was chosen to achieve this aim. This approach has three stages: open, axial and selective coding. Over time, concepts emerge from the data and proceed towards a theory. The data collection develops from the interchange between induction and deduction. (Strauss and Corbin 1998, Corbin and Strauss 2008.)

The process of data collection and analysis
Before entering the field, careful planning and record keeping were required, such as labelling, numbering and coding each research site, patient informant and piece of observation, in order to facilitate further writing, tracking and analysing. Every patient-informant's electronic record was labelled accordingly (e.g., C2002/4).

It was crucial that the data collection and analysis occurred simultaneously, beginning from the first piece of data. The data accumulated first from instances of observation, lasting from 10 to 60 minutes. The open coding produced information

of a single event as part of a structure. (Strauss and Corbin 1998, Corbin and Strauss 2008.)

In the axial coding, a paradigm model was used, in order to search for conditions, actions, interactions, emotions and consequences or outcomes in the events. The accumulated observations (parts of the structure) were constantly compared to each other and single events started to link to each other, forming a process. When concepts emerged from the data, then selective (theoretical) sampling was conducted. (Strauss and Corbin 1998, Corbin and Strauss 2008.)

Methodological tools for the data collection and analysis

Strauss and Corbin (1998, 2008) have presented analytic tools for the purpose of facilitating the coding process. In order to clarify and deepen the analysis of PO and give credibility to the process, this paper focuses on a solution which was considered crucial for the analysis. Here the name 'methodological tools' is used instead of 'analytical tools' because the tools presented in this paper will be seen to be vital for the data collection and analysis itself. However, taking the process all the way to the construction of a completed GT is beyond the scope of this paper. The methodological tools under consideration could not be regarded as linear, nor in isolation, as they were constantly interwoven with each other. (Strauss and Corbin 1998, Corbin and Strauss 2008.) To provide clarity for the methodological tools, this paper presents numerous examples of the data collection and analysis.

Observational protocol An observational protocol was created in order to describe the relationship between nursing and its documentation. It consisted of a set of questions under the rubric 'what is going on here?' (Strauss and Corbin 1998, Corbin and Strauss 2008). It worked as a reminder and a checklist for the observations, guiding the note-taking and microanalysis, as well being a trigger for writing diaries and memos (Lofland et al. 2006). The questions were planned in accordance with the inductive nature of the study. Finally, the data analysis proceeded to the interchange of induction and deduction. (Strauss and Corbin 1998, Corbin and Strauss 2008). The EPRs of the participating patients were reviewed later to reveal the relationship between the nursing care they received and its documentation. The observational protocol was beneficial for comparison of the observations noted by the researcher and the EPRs. (Strauss and Corbin 1998, Corbin and Strauss 2008.)

The observational protocol evolved as the data accumulated and became more complex. There were incidents which called for more clarity. For example, addressing the question 'why' guided the researcher back to the research site for more theoretical sampling. (Strauss and Corbin 1998, Corbin and Strauss 2008.) The observational protocol is presented in Table 1.

Table 1.   Basic observational protocol checklist

Date	Time	Place	Observation code	Type of event	Type of the data collection
What occurs during the event?					
Who does what?					
What is the interaction of the event?					
What is the atmosphere?					
How does the event proceed?					
When does the event occur?					
Where does the event occur?					
Why does this event occur?					
Why do the participants act the way they do?					
When is the event documented?					
Where is the event documented?					
What are the consequences?					
More notes:					

Jotting notes It has been argued by PO researchers that participants quickly forget being part of an observation and thus act naturally (Mulhall 2003, Bloomer et al. 2012). The initial plan in this study to use a tape recorder was discarded after a short 'trial and error' period because it was immediately obvious that the presence of the machine was a distraction for participants in the process. (Hutchinson 2000, Lofland et al. 2006.) The situation changed fast in this study, and new participants were joining all the time. Therefore, to minimise disruption the researcher decided to jot down the key events out of sight of the participants. (Lofland et al. 2006.) The observational protocol gave structure to the note-jotting.

It was crucial that jotting occurred promptly after the event. Equally important was the immediate re-writing on the computer, while the event was still fresh in the memory. This happened at the latest the evening following the observation. (Mulhall 2003, Lofland et al 2006.) Table 2 presents an example of jotting.

Table 2.   Jotting

What is the interaction of the event?	discussion btw. Pt, nst, R later w. rn. Pt confident to future—talks ab. complications. Rn enters, asks about pt's experience here. Pt satisfied, but thinks, complains ab. earlier exper. Pt' wife. RN asks survival. Repeats ostomy care. Tells practicals. R help pt get dressed. Experience, complaint, why, wife

Microanalysis In microanalysis the written text of the field notes was broken into detailed pieces, either line-by-line or word-by-word (Strauss and Corbin 1998, Corbin and Strauss 2008). ((Table 3). It brought into light actions, words, emotions, behaviour patterns and the roles of the participants in the events (Strauss and Corbin 1998, Corbin and Strauss 2008) and provided the data for theorising (Morse 2012). In the microanalysis of the data, a deeper meaning was revealed in the kind of gestures, postures, voice and/or words used by the different participants who were observed in the interaction. The observational protocol thus gave important support to the microanalysis.

Microanalysis began in the field and continued when the jotted notes on the observational protocol were transcribed onto the computer. It was especially important at the beginning of the analysis and when something new was observed in the field. (Strauss and Corbin 1998, Corbin and Strauss 2008.) Also, since the researcher had experience in clinical nursing, microanalysis highlighted aspects which otherwise could have been regarded as self-evident.

There is also criticism against microanalysis. It is time-consuming and may produce huge amounts of irrelevant data (Glaser 1992, Allan 2003). Also, according to Morse (2001), developing a theory requires that the micro-analytic data be more than merely 'snapshots of a process'. With Morse in mind, it was important to move from the details to the whole process and understand the relationship between them. Table 3 illustrates the use of the microanalysis.

Table 3.   Example from the field diary and microanalysis

Extract from field diary	Microanalysis
… was wondering how he would survive in the other hospital… was clearly worried about it. He started talking about the complications in the surgery he had in the other hospital… he was considering making an official complaint. A nurse entered the room … asking about the patient's experiences … repeated his worries about how he would survive in the other hospital. He mentioned his wife, who will keep an eye on things in this other hospital. Saying this, a big smile came to his face and his voice changed and it was full of trust.	How to survive Worried! Recalling complications Official complaint Repeats the worries Survival Meaning of wife: smiling Voice changed! Trust

Use of questioning As discussed earlier, asking multiple questions is central for both the data collection and analysis—from the beginning to the end of the research (Strauss and Corbin 1998, Corbin and Strauss 2008). Questioning led to critical thinking and reflection, which in turn led to more questions (Bowen 2005). For example, as a matter of microanalysis, the questioning was an invaluable way to see beyond the details and discover the context. The researcher maintained a critical dialogue with the data, asking constant questions such as: 'is this datum relevant?', 'how does this datum connect to the study interest?' etc. (Strauss and Corbin 1998, Corbin and Strauss 2008.)

Strauss and Corbin (1998, 2008) mention four main types of questioning, of which sensitizing and theoretical questions clarified the analysis process. The purpose of the sensitizing questions presented in the observational protocol was to raise the topic of what the data are about, channelling thought deeper. In PO, discussions and informal interviews with the participants were essential for eliciting data by questioning. These discussions occurred in natural settings, where the researcher was part of the conversation. Their value appeared in clarifying unspoken matters and leading to new perspectives (Hutchinson 2000, Lofland et al. 2006), as exemplified in the following written in the field notes:

"I admired a patient's beautiful flowers. She commented: 'I just wished that they did not come all at the same time.' 'The flowers?' I asked. 'No, the visitors… when there are so many of them, it is embarrassing when you don't know to whom to talk.'"

As the data collection proceeded and concepts started taking shape, the questions asked in the analysis process became more theoretical. The theoretical questions focused on the relationships between the other concepts obtained from the data. Constant reflection initiated more questions, which were to be addressed upon return to the field. (Strauss and Corbin 1998, Corbin and Strauss 2008.) While the study progressed, each piece of data became part of a theoretical context. Figure 1 presents the context of sensitizing and theoretical questions.
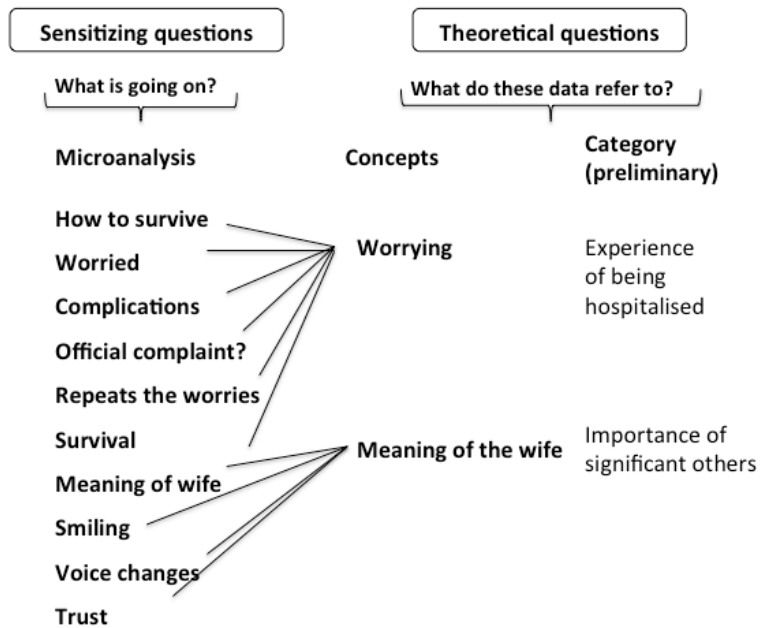

Figure 1.   Sensitizing and theoretical questions

Constant comparison Constant comparison has a distinctive nature in GT in all its phases (Strauss and Corbin 1998, Corbin and Strauss 2008). The observed single events arose in different circumstances, such as admission, doctors' rounds, daily care and interactions amongst the patients and professionals. While processing the observations (in the manner previously discussed), they were compared to each other in terms of their content and meaning, properties and dimensions. At the beginning, in the open coding phase, each observation formed part of the structure. In axial coding, by using the paradigm model, the structural parts were linked together and the process began to be revealed. (Strauss and Corbin 1998, Corbin and Strauss 2008.)

All the gathered concepts were compared to each other, and these comparisons generated categories. (Strauss and Corbin 1998, Corbin and Strauss 2008.) Since the data in this study were fragmented and gathered from small pieces, comparison was a slow process, necessitating perseverance (Maijala et al. 2003). Schatzman emphasises the importance of not identifying the basic social process too early. Instead of asking 'what is going on?', the question 'what all is involved?' gave more clarity to the data over the course of time (Bowers and Schatzman 2009). This was significant in light of the complexity of acute care.

PO usually involves other data collection methods (Lofland et al. 2006), as happened also in this study. Electronic patient records (EPRs) were investigated both for their own value and also during PO when there was a need to clarify information of the participating patients and to trace back events in the patients' history or the phase of the process. EPRs revealed unanswerable questions and knowledge of events at the time when the researcher was not in the field and thus helped to fill gaps in the data. (Strauss and Corbin 1998, Lofland et al. 2006, Corbin and Strauss 2008.) Figure 2 illustrates the building of structure and process.
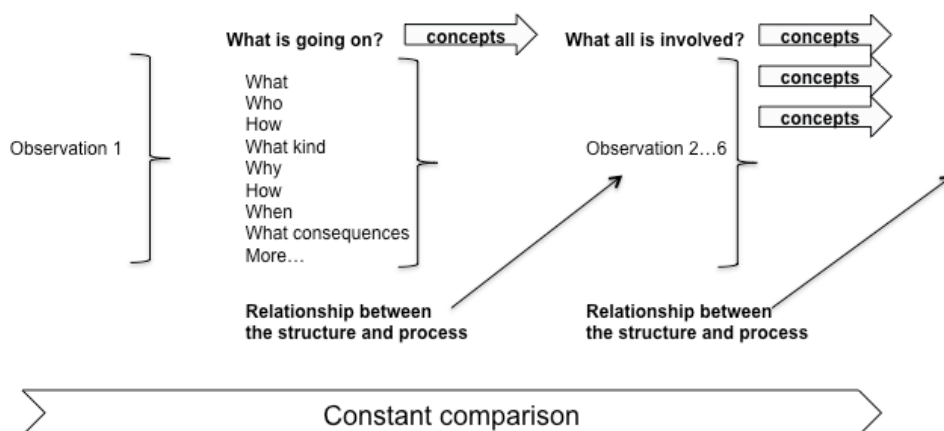

Figure 2.   Building the structure and process

Writing and illustrating Writing and illustrating were constant throughout the research process. In general, there were four types of written notes—jotted notes, field notes, memos and diaries—all with their own purpose. (Lofland et al. 2006.) However, differentiating the three latter types was artificial since their contents were at least partly overlapping and indeed impossible to separate completely from each other. More important than following a strict diary system was to create a

customized writing habit, making sure that nothing important was left behind. (Corbin and Strauss 2008.)

In this study, field notes were the transcribed notes reporting the collected observations. The observations of every participating patient and related actions were recorded individually. They also illustrated the characteristics of the environment where the observations took place. (Lofland et al. 2006, Corbin and Strauss 2008.) The research diary had many purposes, such as reflection pointers, reminders, notes about articles, checklists, instructions, goals for the next step and timetables (Strauss and Corbin 1998, Lofland et al. 2006, Corbin and Strauss 2008).

Memo writing integrated all the research steps; it was frequent and wide ranging. Memos helped to find the lacunae in the process and pointed in the direction of the analysis (Bowen 2005). Memos contained theoretical, methodological, conceptual or philosophical notes concerning the observations and the review of EPRs. Following is an example of such a memo.

What do the words mean? I was wondering about the word self-reliant. *It is often used in the documentation, mostly in assessing the patient's status. But then I heard it mentioned in a surprising context. 'He is self-reliant and does not need care.' My next thought was, why he is in hospital… the language and spoken words need more thought…*

The tables and figures presented above are examples of graphic descriptions of the study's focus and give visualisation to the complexity of the field setting. Diagrams were used, for example, to compare the concepts and their relationships to each other, linking the structure and process and outlining the pattern of the whole picture. Concurrent writing and diagramming revealed the gaps in the analysis and illuminated the pattern in the field. (Strauss and Corbin 1998, Lofland et al. 2006, Corbin and Strauss 2008.)

Discussion

Both GT and PO are suitable in areas where there has not been much research or where new perspectives are needed (Corbin and Strauss 2008, Hunter et al. 2011). Nursing and electronic documentation are much investigated, but using GT and PO together provided an opportunity to demonstrate the complexity of the daily reality of acute care. Using PO allowed many circumstances, perspectives and interactions of multiple actors to be seen, heard, smelled, felt or experienced in the field in a way that could not be captured by interviews alone. (Mulhall 2003, Corbin and Strauss 2008.)

Lofland et al. (2006) noted that there are weaknesses in all approaches to presenting comprehensive analysis of qualitative fieldwork, including GT. For this study, the GT employed (Straussian) enabled data analysis that illustrated the complexity of acute care settings. Moving between induction and deduction

provided comprehensiveness to the data and offered flexibility for the researcher which was crucial to the process. (Strauss and Corbin 1998, Corbin and Strauss 2008.)

Despite the suitability of using GT and PO together, there were challenges. The process required time and the researcher's commitment both in the field and out. Building the theory needs detailed scrutiny. In order to avoid only gathering superficial data (Morse 2001), the researcher needed to reflect and write diaries and memos, constantly moving between the data collection and analysis. This simultaneous data collection and analysis served as the unshakeable cornerstone of the study (Strauss and Corbin 1998, Corbin and Strauss 2008.)

In this study, the methodological tools were necessary for connecting GT and PO. They structured the process, reinforcing each other. Other analytic tools were used as well, e.g., analysing words, phrases and language in the field, revealing the spoken jargon in different wards (Strauss and Corbin 1998, Corbin and Strauss 2008.) Using these methodological tools helped the researcher stay on the path in the direction from data collection and analysis to theory building.

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