

Factors of importance to the development of pressure ulcers in the care trajectory: perceptions of hospital and community care nurses

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Aim. The study aimed at describing contributing factors for the progression or regression of pressure ulcers in the care trajectory as they were understood by nurses working in hospitals or community care.

Background. The development of pressure ulcers is considered to be connected with early prevention and awareness among nurses and some studies have indicated that the care trajectory may be a weak point.

Design. The study was carried out with a qualitative design.

Method. Fifteen nurses from two Swedish hospitals and 15 nurses from community care were interviewed during 2005. Qualitative content analysis was used to make an understanding of patterns possible.

Findings. Three main categories arose, showing that pressure ulcers were considered to be affected in the care trajectory by factors related to the individual patient, to the healthcare personnel and to the healthcare structure. Hospital and community care nurses mostly had corresponding perceptions of these factors.

Conclusion. The study both confirmed previous findings and added new knowledge about factors that may affect pressure ulcer in the trajectory of care. The informants' views of nurses' responsibilities and their attitudes towards the care of pressure ulcers could, along with their views on the organisation of care, increase the understanding of the occurrence of pressure ulcers. The need for development and clarification of the organisation and responsibility of pressure ulcer care in the care trajectory was stressed.

Relevance to clinical practice. The study highlighted attitudes and values among registered nurses, as well as to how to preserve their commitment and increase their knowledge concerning prevention of pressure ulcers.

Key words: care trajectory, co-operation, nursing care, pressure ulcers, qualitative interviews

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Background

During the last decade, a great deal of research has been reported with the purpose of clarifying what pressure ulcers (PU) are, why and how often they occur, how to prevent and treat them (Bours *et al.* 2002, Smith 2003) and their human

and economic consequences (Allman *et al.* 1999). Studies have stressed nurses' pivotal role in the prevention of PU and that they also often have an extensive knowledge in this area (Bostrom & Kenneth 1992, Maylor 2001). However, other studies have illuminated that nurses are lacking updated knowledge about PU or do not use their knowledge in their

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daily work (Gunningberg *et al.* 2001) due, for example, to lack of time or inappropriate organisational systems (Moore & Price 2004). These authors also found that despite of positive attitudes to PU prevention, a majority of the nurses considered that PU prevention was of low priority in their daily work.

The transition of patients between units and between different levels in the healthcare system has been illuminated as a weak point in the development of PU. Athlin *et al.* (2001) found that patients who had been assessed as non-risk patients and yet developed PU had been moved between wards. Gunningberg *et al.* (2000) reported deficits in the communication on PU prevalence and treatment in connection with the transfer of patients between units within hospitals and between care institutions. As nurses have an extended role in the discharge process, their work in this area has been focused in previous studies (Morgan *et al.* 1997, McKenna *et al.* 2000). Watts and Gardner (2005) reported that nurses did not always undertake a reassessment of the patients' needs prior to discharge or an evaluation of the discharge plan. They also found an inconsistency between the nursing documentation and the discharge plan and a lack of routines concerning communication between the bedside nurse and other members of the health team regarding the discharge planning. Further, studies have shown insufficiencies in the communication between nurses across the primary–secondary nursing interface (Closs & Tierney 1997). Findings have suggested that personnel from both sides of the care trajectory may have different opinions concerning how well their communication functions (Dun-ion & Kelly 2005). Since the development of PU to a large extent is considered to be connected with early prevention and awareness among nurses, and some studies have indicated that the care trajectory may be a weak point, this study was carried out. The aim was to study hospital and community care nurses' perceptions of factors, which may contribute to progress or regress of PU in the care trajectory.

Method

Design and informants

The study was carried out with a qualitative design. Registered nurses (RNs) from two hospitals and from community care in adjacent areas in the western and eastern part of Sweden participated. Inclusion criteria were to have at least five years of experience as RNs, as well as experience of patients with PU during the last six months. To achieve data richness, the informants were chosen from different units in the hospitals and from large, small, urban and rural

communities. Head nurses within the hospitals and medically responsible nurses within the community selected presumptive informants based on the given criteria. These were then contacted by the researchers (EI, MJ) and invited to participate and 29 women and one man agreed. Their ages ranged from 34–55 years. Fourteen worked in different settings in community care and 16 in hospital wards, in medicine (4), surgery (11) and intensive care (1) units.

Data collection

Based on a literature review and the researchers' own experiences as nurses, an interview guide was formulated; capturing questions about the discharge process, progress/regress of PU and obstacles in PU care. Two test interviews were carried out by the interviewers (EI, MJ) and discussed in the research team to synchronise the interview style. The interviews were opened by asking the informants to describe a specific patient with PU, who they had cared for. Complementary questions based on the interview guide were used to clarify and deepen the understanding (cf. Cormack 1996). The interviews lasted about one hour, were tape-recorded and transcribed verbatim.

Ethical considerations

Approval was obtained from the nursing services and the study was carried out according to ethical guidelines (Ethical guidelines for nursing research in the Nordic countries 2003).

Data analysis

The data were analysed using qualitative content analysis (Burnard 1996). First, each interview was read to create an overall view of the content related to the informants' perceptions of factors which may contribute to progress or regress of PU in the care trajectory. Then, units of meaning appearing to deal with the same content were identified, coded and grouped together. All codes and groups were compared and challenged and reduction was made by collapsing those that were similar or different into broader groups at a higher level of abstraction. In this phase, subcategories and categories were created and named. To ensure that the subcategories and categories truly were grounded in data, they were then compared with the original text. To enhance the credibility of the study, the researchers worked in close collaboration discussing meaning units, codes, subcategories and categories until consensus was reached (Elo & Kyngäs 2007).

Findings

The analysis showed that the opinions among hospital and community care nurses were mostly corresponding with regards to factors which could contribute to progress or regress of PU. Factors seen as hindering the progress of PU were also mentioned as facilitating regress and vice versa.

Three main categories arose in the analysis, showing that PUs were considered to be affected in the care trajectory by factors related to the individual patient, to healthcare personnel and to the healthcare structure. Nine sub-categories described the content of these categories. The main categories and sub-categories found are shown in Table 1.

Factors related to the individual patient

Physical condition

All nurses stated that a good general condition of the patient, including clean and dry skin, was a basic factor that could both prevent PU and make it regress. Decreased physiological condition and morbidity such as circulatory disturbance, diabetes mellitus, hip fracture and stroke were factors considered to contribute to the progression of PU. Others were thinness, obesity, pain, infection, incontinence, fever and skin condition. Described as especially vulnerable were paralysed, terminally ill and bed-ridden patients. Nutritional problems were pointed out as a common cause of PU and patients with reduced eating ability upon admission to the hospital were identified as being at a great risk.

Psychological condition and patient participation

The patients' psychological well-being and their ability and will to participate in their own care were mentioned as important to being at low risk of PU. Factors mentioned as

increasing the risk were cognitive impairments such as dementia, confusion and depression, as well as the patients' motivation, intrinsic power and compliance to their care. Examples given were patients who did not react to pain or did not follow given prescriptions. Many older patients were thought to be afraid to ask personnel for help with pressure relief and repositioning. Hospital nurses told about patients who could refuse pressure relief and repositioning. Community nurses highlighted problems when patients were unaware of their PU when discharged from the hospital or rejected attempts to inspect or treat the wounds.

Place of care

Both hospital and community care nurses stressed that the place of care was a factor of importance to the PU development and they pointed at 'the other setting' as being the risk place, where patients got their sores. All informants stressed a connection between hospitalisation and the development of PU and short hospital stays were seen to decrease the risk. The patients were considered to be mobilised in a better way during hospitalisation, but hospitalisation also meant a decreased general condition and immobilisation, which increased the patients' PU risk. The emergency unit and operation theatre were pointed at as high-risk places. Many of the community care nurses stated that PU seldom appeared in patients' homes when relatives were aware of the risk.

Factors related to the healthcare personnel

Views and values

The personnel's view of their work was seen as one reason for the development of PU. The main focus in hospitals was considered to be on the disease and its treatment, which could lead to development of PU. The care in communities was considered to have its attention directed to basic care, involving PU care. Pressure sores as well as preventive interventions were regarded as having a low status among RNs, and PU care was mostly a concern of licensed practical nurses (LPNs). Early signs such as erythema were not judged as PU and therefore not reported, neither when a patient was admitted to or discharged from the hospital. Occurrence of PU was also experienced as being connected with shame and guilt, which could lead to neglect and lack of treatment. PU was considered by the informants as uncommon and they were aware that this could mean they were unobservant.

Responsibility and commitment

Taking responsibility was stressed as an important factor in PU care. Although PU care was seen a task of LPNs, the

Table 1 Main categories and subcategories capturing factors of importance to pressure ulcers

Factors related to the individual patient	Factors related to healthcare personnel	Factors related to the healthcare structure
Physical condition	Views and values	Organisation and routines in the healthcare system
Psychological condition and patient participation	Responsibility and commitment	Resources
Place of care	Knowledge and competence Co-operation and communication	

informants claimed the superior responsibility of RNs due to their higher level of education. This responsibility concerned prevention, risk assessment and supervision of LPNs. Experienced LPNs were seen as being some kind of 'experts' in PU treatment due to their daily work in this area, but both they and newly trained LPNs were regarded needing support from RNs especially in preventive care. However, it was declared that many nurses did not take on this responsibility due to a lack of interest and they left the LPNs without support. The supervisor role was described as a 'standing behind' role, which often delayed the nurses' involvement in decisions about treatment until a sore had occurred.

Commitment and interest in the patient's total care was as another important factor avoiding PU. Many of the informants stated that they often contacted 'the other setting' to ask for more information about a patient. They also illuminated that this kind of personal initiative was not taken by all nurses, since it was 'off the record' and done only due to commitment and professional interest. The necessity of nurses with 'fiery spirits' was underlined, to maintain the focus of PU at the work-place. Physicians were regarded as having the overall responsibility and authority regarding PU treatment, but their knowledge about wound care and preventive interventions was often mentioned as being scarce. The patients' transfer from one setting to another was another risk factor, since nobody seemed to take the responsibility for the patient and his/her PU in the new setting.

Knowledge and competence

Knowledge and competence among healthcare personnel were mentioned as factors essential both to avoid occurrence of sores and to heal them. Most informants demonstrated theoretical knowledge about how to prevent and treat PU, but a rather unreflective attitude towards PU care was also found. In the interviews, the incongruity between what the nurses knew about PU care and how they and their colleagues really acted became obvious. Adequate knowledge about how to prevent and treat PU was seen to exist among many nurses, but knowledge could be lacking, out of date or inadequate as well. Hospital nurses expressed that the community care personnel often lacked knowledge about organisation and responsibility in the healthcare system, which they stressed could cause problems in the care of PU. The reverse opinion about hospital personnel was not found among the community nurses. All nurses were considered to know about the value of risk assessment of patients with regards to PU, but this was seldom used in daily work. Knowledge about the patient as a person was also mentioned as important.

Co-operation and communication

Co-operation and communication in the transfer of the patients between different settings were recurrently mentioned as factors of great importance for progress or regress of PU. These transfers could be between the patient's home and the hospital, between units and between different community settings. The communication between the personnel involved in these transfers, was seen as a weak point in PU care. All the nurses stressed that they gave information orally via a telephone call to 'the other setting' in connection with the transfer, but considered that nurses from 'the other setting' seldom did the same and if they did, PU was seldom mentioned. Written information on their patients' care often followed the patient to another setting, but PU and its treatment were seldom included.

The fact that LPNs took care of the patients' PU rather independently and that the RNs had to act on their reports about assessments and interventions was considered a source of problem. This could function well, but the information could also be irrelevant or vague. Many informants stressed that this kind of 'second hand information' could affect PU negatively. They asked for an opportunity to see each patient and inspect his/her sores themselves. They also described the difficulties in checking the patients themselves without 'stepping on someone's toes'. In community care, relatives were expected to report signs of PU to the nurses.

Factors related to the healthcare structure

Organisation and routines in the healthcare system

Continuity in the organisation was pointed out as an important factor with an impact on PU. Too many healthcare personnel were considered to be involved in the care of the individual patient. This meant that nobody knew who was responsible for what, which often led to neglect and failure in the trajectory of care. By means of continuity in the caregivers' time-schedule and daily inspection of risk patients' skin, early signs and symptoms of PU could be discovered. Many short-time nurses were seen as a risk factor, since they lacked both knowledge and continuity in the care of individual patients. The informants illuminated the importance of regular routines concerning follow-ups of PU by the responsible nurse. Some nurses mentioned the benefits of the primary nursing system, where a responsible nurse is assigned to each patient, as a way to make the care of PU more professional.

Lack of routines about information transfer related to PU was underlined as a serious problem. The informants pointed out a lack of agreement between all parties involved in the

trajectory of care regarding such routines. There could be guidelines and routines for wound assessment and treatment available, but they differed a great deal and they were not always complied with. The nurses stressed the necessity of an agreement about what to report, as well as when, to whom and how. Both written and oral reports were seen as desirable. The fact that community and hospital care were run by different authorities was pointed out as a risk factor *per se*, which only could be overcome by a mutual concern between the parties involved in the care for these patients.

Resources

The lack of personnel and time was seen as a severe obstacle in the care of PU, especially during evenings and weekends both in hospitals and community care. Being responsible for too many patients meant that the RNs had no time for PU prevention, despite personal ambitions and professional demands. To manage, they handed over the full responsibility of PU to the LPNs. All nurses were well aware of the significance of technical equipment in the prevention of PU and the availability of such equipment usually was good. Most of them also claimed that they had good equipment for nursing documentation and risk-assessment, but despite of that documentation and risk-assessment were not always done due to lack of time.

Discussion

This study aimed at describing contributing factors for the progression or regression of PU in the care trajectory as they were understood by 30 nurses working in hospitals or community care. Previously, PU literature about the reasons for PU development has focused to a great extent on 'intrinsic' and 'extrinsic' factors, illuminating that intrinsic factors are related to such as the patient's physical condition, mobility, nutritional status and morbidity and extrinsic factors related to the interface between the individual and external environment, such as pressure, friction, temperature and hygiene (Lindgren *et al.* 2004). The same patterns were mentioned by the informants in our study, but they further added to the understanding by highlighting factors related to the healthcare personnel and those related to the healthcare structure.

An interesting finding was that the patient's psychological well-being was underlined as an important factor in PU care. The nurses claimed that if the patients lose their inner strength and will, this may lead to inactivity and immobility, which increases the risk for PU, and this has also been stressed in other studies (Olshansky 1994). Many nurses highlighted the significance of including the patients and their

relatives in PU care, which is both in accordance with research about patient participation as a means for high-quality care in general (Spilsbury *et al.* 2007) and is argued to impact positively on PU care (Benbow 1996).

A remarkable, but not surprising finding, was the subcategory 'Views and values', which illuminated that the care of PU was regarded as low-status work by many nurses. As PUs often are discovered and treated during basic care and basic care often is seen as low-status work and performed by less trained personnel (Daykin & Clarke 2000), the attitudes found in our study could be understandable. Similar findings have been seen in other studies, showing that nurses were less interested in PU prevention than in other aspects of nursing care (Moore & Price 2004). As such attitudes may have a negative impact on nurses' performance of professional care, an important question must be how to change negative nursing attitudes to 'basic care' and PU. Previous studies have also shown that even if nurses have a positive attitude to PU prevention, they do not apply prevention as a routine in practice. Barriers found to hinder knowledge and positive attitudes from being used in practice are often the lack of time and personnel (Panagiotopoulou & Kerr 2002), which was also illuminated in the current study.

Many previous studies have focussed on nurses' level of knowledge concerning PU care, with somewhat contradictory findings suggesting that nurses both may have (Panagiotopoulou & Kerr 2002) and lack (Buss *et al.* 2004) adequate knowledge in this area. The findings in our study showed that nurses in general were considered to have adequate knowledge about prevention and treatment of PU, but that they did not act in accordance with this knowledge as a routine. A notable finding was that erythema was neglected in PU care. This incongruity between what the nurses in our study stated that they knew about PU prevention and how they and their colleagues acted, is prominent. This is in line with what has already been stated, that having knowledge is not the same as using it (Pancorbo-Hidalgo *et al.* 2007).

The limited use of available knowledge in clinical practice is well known. The reasons given in our study for why nurses did not work according to current knowledge were lack of time, lack of personnel and problems in the co-operation between professionals involved in the care. These findings are in accordance with previous studies (Capon *et al.* 2007). McDonald (1995) stated a decade ago, that PU prevention is a typical area where research findings are not applied in practice, even if they are available. The question is, therefore, how to change practice regarding the care of patients at risk of PU, based on research findings. According to Estabrooks (2003), nurses learn in practice where knowledge is transferred among colleagues. Therefore, it should be a matter of

concern for nurse administrators and leaders to offer nurses in practice continuous supervision, where research findings about different aspects of nursing care are presented, discussed and scrutinised as to its relevance to current practice (cf. Björkstöm *et al.* 2006).

This study indicated that RNs consider themselves to have an authoritative responsibility with regards to PU care, based on their higher education, while LPNs carry out the daily care. This supervisory role was a problem, as it meant that the nurses had to rely on 'second hand information' which sometimes could be irrelevant. This finding illuminates a very delicate organisational problem in healthcare, where the best trained personnel are working at a distance from the patient, and are often dependent upon the discernment of less well-trained personnel. How well this functioned was to a great extent thought to be dependent upon the RN's concern about the patient. Commitment and interest were stressed as being imperative to the care of patients with PU in our study, which has also been highlighted as a quality indicator in the care of other groups of patients (Holst *et al.* 1999, Larsson *et al.* 2006). Therefore, it must be of utmost importance to investigate further how to inspire and preserve commitment and interest among nurses regarding the care of patients who are at risk of developing PU.

The patients' transfer in the care trajectory was judged by the nurses as a risk factor *per se*. Nobody seemed to take the responsibility for the patient and his PU in the new setting and the transfer of information about the PU care was almost totally lacking. This is in accordance with many other studies where poor communication and co-operation between hospitals and community care has been illuminated (Atwal 2002, Dunion & Kelly 2005). The nurses in our study also pointed at organisational factors, such as lack of continuity, as risk factors. They argued for an organisation of care where RNs are more visible in the direct care of the individual patient, both to be able to assess the patient's status and to supervise less-trained personnel. The primary nursing system was stressed as a means to enhance the continuity of PU care (cf. Manley *et al.* 1996). However, studies focusing on its value in preventing PU have not been found, and so this could be an area for further research.

Methodological considerations

This study had some limitations that need to be taken into account. As this was a qualitative study, carried out in two hospitals and community care in adjacent areas, it does not claim to have captured all variations possible regarding nurses' perceptions on factors of importance to PU. It might be possible that the findings illuminate local circumstances

and problems. However, by interviewing nurses from different parts of the country, from different units at the hospitals and from communities with great variations, the findings are assumed to fit also to other contexts (Beck 1993). Furthermore, there were some difficulties in discerning from the interviews when the informants talked about real factors that hindered versus increased the development of PU in the trajectory of care and when they talked about the ideal of how to prevent and treat PU. This problem is well known when using interviews for data collection. However, by asking the informants to tell about a patient with PU they had cared for and by comparing the meaning units and groups of data in the analysis from different settings, it was possible to judge what the informants considered as important factors in PU care in their own daily work. By interviewing nurses chosen from both sides of the care trajectory, the validity of the findings could be enhanced (Cormack 1996).

Conclusion and implication for practice

This study has confirmed findings from previous studies and also added new knowledge about factors that may affect PU positively and negatively in the trajectory of care. The findings highlighted the need for development and clarification of the organisation and responsibility of PU care in the care trajectory, as well as the need to improve communication and co-operation among healthcare personnel involved in the care of these patients. The study also highlighted the necessity to strengthen the value placed on PU prevention among RNs, as well as to further study how to preserve their commitment and increase their knowledge in this area. Further, the study stressed the significance of patient involvement in PU care. To deepen the understanding about the human-related and structure-related factors involved in the prevention and treatment of PU, more studies are required.

Contributions

Study design: EA, EI, MJ, IJ; data collection: EI, MJ; data analysis: EA, EI, MJ, IJ and manuscript preparation: EA, EI, IJ.

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