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ORIGINAL PAPER

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Experience of Intensive Care Nurses in Assessment of Postoperative Pain in Patients with Hip Fracture and Dementia

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ABSTRACT

Introduction: Patients with hip fracture are one of the most demanding groups in the health-care system. One of the most important tasks for nurses is to assess pain and ensure the patients are pain free. Pain assessment in patients with dementia is a well-known challenge for health-care professionals due to the patients' difficulties in verbalising pain problems. **Aim:** The aim of this study was to explore the experience of intensive care nurses in assessment of pain in patients with hip fracture and dementia in the postoperative setting. **Methods:** Data were collected through five focus group discussions using open-ended questions and qualitative content analysis. Twenty-one intensive care nurses (6 men and 15 women) participated in the focus group interviews. **Results:** Analysis of the data resulted in three main categories: "Communication", "Visual assessment of pain", and "Practical issues" including a number of subcategories. Some of the factors which influence assessment of pain in patients with dementia are the lack of information and knowledge about the patients, which causes loss of time and increased stress. The different forms of communication and ways of assessing pain in these patients were other factors mentioned by nurses as hindrances regarding assessment of the pain. **Conclusion:** In order to improve assessment of pain, more knowledge and information about the patients are needed and better coordination between the pre- and postoperative departments regarding these patients. In this context, different intervention studies on patient's hip fracture and dementia are needed to increase knowledge and awareness regarding this group of patients.

Keywords: Dementia, hip fracture, pain assessment, intensive care nurses, qualitative research.

1. INTRODUCTION

As a population ages, the incidence of dementia is rising quickly. It was estimated that in 2016 there were 49.6 million people with dementia throughout the world. It is expected that by 2050 there will be as many as 115.4 million individuals with dementia if there is no success in preventing the disease (1). There are almost 7.7 million new dementia cases in the world every year (2). Approximately 150,000 individuals have one or other form of dementia in Sweden, and every year 24,000 new individuals develop various types of dementia. In addition, approximately 18,000 individuals sustain a fracture a hip very year in Sweden. Patients with hip fracture are one of the most challenging groups of patients in the health care system. Every year in Sweden SEK 1.5 billion is spent on the rehabilitation from hip fractures (3). About 33% of patients who are admitted to hospital as emergency cases due to hip fracture are suffering from acute or chronic confusion or dementia upon admission. In addition, one in three patients become confused during the first few days in hospital. This causes a great deal of physical stress and may lead to complications. The occurrence of dementia in patients with hip fractures has been shown to be rising rapidly (4). Many more of them die than those who are not demented, and those who do not die ever regain their former physical and mental function. Pa-

tients who have dementia are usually vulnerable and have reduced strength, and need special attention for individual care depending on the degree of their disease (5). Whilst undergoing surgery, patients suffering from dementia are treated by many different health-care personnel, and this may lead to further confusion. Knowledge and information about approaches to patients with dementia who require hip surgery is very scarce. Staff in health care institutions frequently do not have access to information about their patients' situations, personality, behaviour or history in cases of emergency surgery. This fact is exacerbated by the fact that most patients need immediate surgery to prevent morbidity and death, so the medical staff do not learn more about the patients until after the operation (6). It has been shown that appointments held before elective surgery is very important (7). However, when there is an acute fracture, nurses encounter many problems and demands, under additional time pressure (8). One of the most significant things the nurses need to do is assess the patients' level of pain and make sure the patients are pain free. In so doing, they make use of their knowledge and training in many ways. In assessing pain in patients suffering from dementia, health care professionals are faced with a well-known challenge because of the patients' problems in expressing their pain (9, 10). It has been shown by earlier research both throughout the world and in Sweden, that nurses are under a great deal of time pressure and are frustrated when treating patients with dementia whether the patients are at home (11, 12) or in hospital (13, 14). Many health care professionals are involved in assessing and managing pain on orthopaedic wards, with different roles to play. Analgesics are usually prescribed by physicians, and anesthesia nurses mainly assess and administer pain medication, and assess pain following surgery (15, 16). Although we have been aware of the fact for a long time, in the case of elderly patients suffering from dementia often pain is not noticed, or is wrongly understood or assessed. Even after surgery, the patients with moderate to severe cognitive impairment showed a high incidence of non-walking ability, worse quality of life, high mortality and reoperation rate after hip fracture treated with hemiarthroplasty (17-20). Even though the issue of recognition of pain in elderly patients with dementia was recognized as much as 20 years ago, it is not known why these problems still occur (21). The question has been talked about in detail since then (18), and the availability of analgesics is seen as a basic human right (22). The Swedish Social Board (23) established that the professional responsibility of nurses is to provide care on the basis of scientifically proven grounds. Nurses should be able to observe, assess, plan, implement and evaluate their patients' needs for care. In the case of patients suffering from extreme forms of dementia, the nurses must be able to carry out these duties, even when the patient cannot communicate sufficiently well. Although nurses in Sweden are educated to assess pain and act to relieve pain, they are not trained to administer medication. It is much more complicated to care for patients suffering from pain after an operation because each patient has their own wishes and convey those wishes in their own way as they are (24). Communication is always the priority when assessing pain

in patients with dementia. It is important because it is the basis of our interaction with other people. We communicate to express our thoughts, feelings and wishes. Patients with dementia find communicating with those around them more difficult.

2. AIM

The aim of this study was to explore the experience of intensive care nurses in assessment of pain in patients with hip fracture and dementia, in the postoperative setting.

3. METHODS

Data collection

The study was designed as a qualitative study using data from interviews with participants from an intensive care ward. Data was collected through five focus group discussions (25) with 3, 4, 5, and 9 participants, respectively. The interviews were conducted between September and December 2016 by the first authors through the group interviews using open-ended questions. The interviews began with the question: 'Please describe your encounters with hip fracture patients with dementia in the postoperative setting.' All study participants were urged to speak freely using their own words and respond as comprehensively as possible. The interviewer interrupted only to pose further questions or follow up on the information given by the nurses. The interviews, which were conducted at the surgical ward, lasted between 50 and 100 minutes, and were audiotaped and transcribed verbatim. Questions used during the interviews are presented in Table 1. The study was conducted at the Department of Orthopedic Surgery, Sahlgrenska/Mölndal University Hospital. Intensive care nurses were contacted by the first author and asked to participate voluntarily in an open, group interview. After meeting with study participants, the aim of the study was presented. Nurses with at least 5 years' experience in orthopaedic postoperative care were asked to take part in the study, since they would have had more opportunities to meet patients with dementia. Twenty-five intensive care nurses were recruited initially, but four could not participate because of staff shortages and other personal reasons. An invitation with information about the study aim was sent later to 21 intensive care nurses. So twenty-one intensive care nurses (6 men and 15 women) participated in the interviews. Their ages varied between 27 and 62 (median 44.5), and they had worked as intensive care nurses for between 1 and 29 years (median 15 years). To obtain information, in-depth individualised interviews were conducted.

Ethical Consideration

The head of the participating departments approved the study. The informants' identities were protected, that is, their names and personal identity numbers were not stated in the recordings. The tapes used for the interviews were stored in a safe. Formal approval for a study of this kind is not required in Sweden. However, the study was performed according to general ethical procedures, such as voluntarism, the ability to discontinue participation at any time, and receiving written and oral information.

Statistical analysis

The qualitative content analysis method, according

to Graneheim and Lundman (26), was chosen for analysis and interpretation of the data. This method is able to condense large quantities of data into a limited number of themes, categories, subcategories and codes. Data analysis was primarily at the manifest level, however, as the latent analysis part of this method, so the analysis may contain both manifest and latent elements. The transcriptions were read carefully to identify the informants' experiences and perceptions. After that units were extracted consisting of one or several words, sentences or paragraphs, containing aspects related to each other and addressing a specific topic in the material. The units that related to each other by virtue of their content and context were abstracted and grouped together into a condensed unit, with a description close to the original text. The condensed text was further abstracted and labelled with a code. After that, codes that addressed similar issues were grouped together, resulting in subcategories. Subcategories that focused on a similar problem were merged to create more extensive perceptions, addressing an obvious issue (26). According to Graneheim and Lundman, the interpretation was done primarily at a manifest level. The results are presented with direct quotations from the interviews.

4. RESULTS

Analysis of the text in this study resulted in one theme and three main categories, and nine subcategories. The categories, together with the subcategories, are presented in Table 2.

Communication

The participants in this study are divided on the issue of communication with patients with dementia. Some respondents communicate with patients as usual, as if they did not have dementia, others communicate with these patients as demented individuals who do not understand anything, whilst others communicate with them as with other patients without dementia, but using shorter sentences and simpler language. All participants in this study, however, see communication with patients with dementia as very difficult and demanding. The informants also noted that in general, patients with dementia are often very "sweet" and friendly, and only occasionally aggressive, angry or dissatisfied. All nurses agreed that it is important to know more about dementia and what it means for post-operative care, because this would make cooperation easier between the various health care staff and reduce patients' hospital stay. Although there are usually at least two people involved in the communication with the patient with dementia, only the nurse talks and communication is one-way, because the patient with dementia does not ask question or respond to questions about pain. All informants in the present study experienced this as very difficult and stressful.

Knowledge and information about dementia patients

None of informants in the present study had attended a course on dementia, and all informants thought that together with their experience of patients with dementia a course would help them perform their duties even better. They also pointed out that the information from where the patient with dementia came from initially, from the hospital department and the surgical ward, was inadequate. Most

	Numbers
Sex	
Male	6
Female	15
Total	21
Education level	
Intensive care nurses	21
MSc level examination	5
Masters	16
Total	21
Dementia courses taken	0
Total	0
Age	
≤30 years	2
31-40 years	5
41-50 years	5
51-60 years	8
≥60 years	1
Total	21
Experience as registered nurses	
≤5 years	5
6-10 years	3
11-15 years	2
16-20 years	6
≥20 years	5
Total	21
Experience as intensive care nurses	
≥5years	5
6-10 years	2
11-15 years	4
16-20 years	5
≥20 years	5
Total	21

Table 1. Demographics of participants: education level, work and years of experience

often the intensive care nurses only received information from the anesthesia nurses in a very brief report about the patient. Usually this was not enough, and all informants wanted more information about the patients.

"We will not receive any information about the patient until she arrived on our ward in the postoperative department"

"We do not get any information it would be good if we could know a little before the patient arrives"

"I think that although they are part of a particular group, they are not taken seriously," they are treated like all other patients."

Communication about pain

Most of the respondents in the study pointed out that communication with patients with dementia begins by holding and stroking their hands, and then talking about the existence and intensity of pain. Most of them also pointed out that in communication with these patients they use short sentences and simple vocabulary, as well as with greater kindness and attention to these patients because most of the respondents in the study sympathize

with their suffering. However, communication is often absent because there is no response from the patients.

“We communicate with the patients, but we get no response.”

“Communication with these patients is usually taking their hand and being near them.”

“I communicate with these patients as with regular patients, but it does not help no answer.”

Reports of pain

Despite the fact that the majority of informants know that communication with these patients is almost impossible, all informants continue to communicate with them so they feel better and more comfortable, and to make them feel welcome on the ward. If they do not have adequate information they all resorted to some other form of assistance, such as: contact with health-care professionals on the ward where the patient was admitted, reading the patient’s notes, and asking relatives if they are present with the patient. All informants in the present study once again highlighted the lack of information about these patients and the lack of coordinated information from retirement homes, through the hospital wards to the surgical departments. In order to learn about their patients’ pain, the staff sometimes asked them directly.

“For information about the patients’ pain, we sometimes have to call the ward the patient came from and sometimes even the retirement home.”

“Sometimes we have to read a great deal of paperwork for information about pain in previous hospital stays.”

“I treat every patient with dementia as a patient with a disease and communicate with them as dementia patients, but it does not help... they never answer questions.”

Family members as a resource in pain assessment

All informants in the present study stated that relatives can be very helpful in recognizing signs of pain. Knowledge of the patient’s background and life story is necessary for the nurse to be able to interpret expressions that could be signs of pain. Collaboration with relatives should be seen as a resource, and give nurses better personal knowledge, according to all informants in the study. However, all informants also stated that these patients are rarely accompanied, and they are often left on their own. This makes it difficult to help patients and requires valuable time for health-care professionals.

“It’s great if someone from the ward or any relative accompanies the patient, but it’s very rare.”

“During my 11 years here I once had a demented patient with a personal assistant that helped me a lot.”

Visual assessment of pain

To assess pain and to provide pain relief for patients throughout their stay on the postoperative unit, without being able to communicate properly with the patients was seen to be very difficult by all the informants in the study. To communicate with patients and reach solutions for them was, for all informants, the basis and starting point for carrying out their everyday tasks. However, for the patients in the study it was almost impossible. The majority of nurses

Categories	Subcategories	Theme
Communication	Knowledge and information about dementia patients	Assessment of post-operative pain in hip fracture patients with dementia
	Communication about pain	
	Reports of pain Family members as a resource in pain assessment	
Visual assessment of pain	Pain expression through body language	
	Pain expression through different moods	
	Verbal pain expression	
Practical issues	Time	
	Stress	
	Suggestions for improvement	

Table 2. Overview of the categories and subcategories

in the study probably had to find a moderator, rely on their past experience, consult senior colleagues, and in some cases guess if the patients were in pain. All informants describe the signs and gestures patients show to indicate pain and discomfort. Some signs of pain were a change in body language, a specific look, being anxious, withdrawn, aggressive, or having trouble sitting still.

Pain expression through body language

For all the informants it was very important to observe the body language of patients with dementia for assessing pain when communication failed. The most experienced nurses also pointed out that it was enough to look at the patient’s face to see there was something wrong and that they were in pain. Patients show pain in different facial expressions, such as grimacing or frowning. Other expressions of pain through body language are when patients withdraw, facial expressions, touching of their body, guarding their body where it hurts, or some are in pain but do not show it at all.

“If the patient makes different grimaces, screams or points to the operated part of the body, I know that the patient is in pain.”

Pain expression through different moods

Intensive care nurses in this study also observed that they even assessed in patients with hip fractures and dementia on the basis of the different moods the patients showed on the postoperative unit. The moods whereby patients demonstrate pain are: agitation, anxiety, aggression, depression, and fear. The informants in the study agreed that patients with dementia show anxiety and depression when they have signs of homesickness, or longing for their relatives.

“They are usually aggressive, anxious and slow when they are hurt.”

“Their aggressiveness tells me a lot ... they are in pain.”

Verbal pain expression

All informants also pointed to the verbal expressions of pain in patients with hip fractures and dementia in the postoperative period. Intensive care nurses described that they may groan and also be aggressive, expressing pain by screaming and mumbling, using curses and swear words, and they may be angry with the health-care professionals. All nurses agreed that the expression was worse when they

did care for patients.

"The patients are never the same, from nice and calm to aggressive, with lots of ugly words."

"Completely different personality... I think dementia changed that person."

Practical issues

Most informants in the study also stated that there were practical questions in assessing postoperative pain in hip fracture patients with dementia. Practical questions were expressed in the form of losing valuable time and increased stress when they needed one extra professional, and in the lack of information about patients. They also suggested improvements.

Time

All nurses in the present study mentioned time as a major factor in the period when they are doing their work, helping patients with dementia. The day's plan and schedule can be "destroyed" by a patient with dementia. They have to reorganize the day and this takes time. They also mentioned that they very rarely only care for patients with dementia during the day. The nurses usually have patients with and without dementia during the same time. The majority of nurses mentioned that they usually do not give extra help to patients with dementia; it is enough to hold their hand. This requires an extra person whom they usually do not have. In many circumstances, a kind hand on the shoulder can be enough to calm a patient with dementia during the postoperative period.

"A single patient with dementia during the day makes us have to plan the day ... it takes time, time we do not have."

"Sometimes we need two extra hands, we need extra staff without education, we do not have ... it's hard, but we are willing and we succeed."

Stress

All intensive care nurses in this study mentioned that it was enough to have only one patient with dementia in a day to feel stress and things change quickly. They also mentioned that it was always stressful as long as there were patients with dementia on the ward, but it was manageable. They mentioned as causes of stress the fact that no health-care professionals from the previous last accommodation or family members accompanied the patients, they did not get information on the patient with dementia from the surgical ward, there was very little or no paperwork on the patients on the wards, patients usually undergo surgery in the evening when there are fewest health-care professionals present, and there is no special room for patients with dementia.

"The patients cause increased stress on the ward and it is constant."

"In an already stressful situation, a patient with dementia comes and the day changes."

Suggestions for improvement

In order to improve communication and pain assessment for patients with hip fracture and dementia a number of possibilities were suggested by participants in the present study. Most nurses stated that postoperative care of patients with dementia could be improved and should be the focus of future research. All nurses agreed that better knowledge of dementia and its implications for postopera-

tive care is important since this would facilitate cooperation between various health personnel groups and shorten patients' hospital stay. None of the participants in this study took any course on dementia, but all respondents wanted to attend one. Some nurses wanted to attend a course to see whether they had been working properly all these years and whether there has been progress in helping demented patients with hip fractures.

"Paperwork sent with the patient, receiving information about the patient or if the patient has something that makes him calmer help a lot."

"We need a relative or a person from the department who knows the patient to help us."

"We do a lot and care for patients with dementia but we have not been on a course about their care. To do our job better, we need to go on a course, to see what's right and what's wrong, and what previous research and experience has to say."

5. DISCUSSION

The results show several characteristics of the nurses, and the factors that influence their assessment of pain in patients with dementia, such as the lack of information and knowledge of the disease, difficulties in communication with patients and the lack of time and a high dose of the stress in assessment of pain and treatment of this patient group. All the intensive care nurses want to be informed if a patient with dementia is on the surgery ward and that they will soon be coming to the postoperative ward. All the nurses emphasised that information and their knowledge about these patients was poor and limited, and they only knew about them when the patient came to the post-operative department. In general, their nurses' knowledge about patients with dementia was lacking. The reason for this might be the fact that none of the responding nurses had completed a course on the care of patients with dementia. The present study is in agreement with another study about information and knowledge about dementia patients, showing that participants in the study observed that a caring attitude and behaviour in their encounters with patients with dementia is important, but challenging in practice. Several of the nurses would have valued more information about dementia. Some noted situations in the hospital that seemed particularly difficult for patients with dementia, such as moving to different parts of the hospital for treatment. The study suggests the need for improving the dementia-related knowledge and skills of all non-clinical staff, especially those new to the NHS (27). In a situation where information and knowledge about patients with dementia is poor, it is likely that communication with these patients will be difficult, especially because patients come to someone who is unprepared to receive them. All nurses in this study stated that it was much easier to communicate with and treat patients when they received timely information, when they went into surgery and not afterwards, when they came to the post-surgical ward. The nurses also emphasized the importance of their first meeting with patients, and keeping up good communication during the operation and afterwards. This study, in agreement with many others, shows the importance of good communication and working together with these patients (13, 28-30),

and that without communication what nurses do leads to frustration in patients, guardians and other staff. This may be why the nurses in our study communicated with these patients in different ways. Some intensive care nurses said they communicated with these patients as usual, as if they did not have dementia, however, another group of the nurses said they communicated with these patients taking into consideration the fact that they had dementia and did not understand anything. A third group of intensive care nurses communicated with these patients as with other patients without dementia, but using shorter sentences and simpler language. The division regarding communication patients with dementia may be due to the fact that these nurses had not been informed in good time that the patient was coming to the ward, and also because none of them had taken a course on patients with dementia. Another issue mentioned by intensive care nurses was the need to gather information about these patients as soon as possible, including about their previous treatment at the hospital. For this they use various different data systems, contact the ward or the patients' home, try to communicate once again with the patients, but without results. In some cases, the patients have someone who makes the situation and communication a little easier. The result of the present study showed that the nurses "did not have much to play with", however, time passed, stress increased, and the patients were already on the ward needing help with their pain. In such cases, the nurses used different methods to make it easier to help patients with their pain. What helped nurses to determine the need for and initiate pain relief in this type of patients are facial expressions such as grimacing, frowning and grinning, touching the body, guarding the body where it hurts, agitation, anxiety, aggression, depression, fear, anxiety, depression, screaming and mumbling, using various curses and bad words, and being angry with the nurses. The reliability of these methods and the quality of care thus provided in health care are questionable. Assessment of and reporting pain, the relationship between patients and nurses, and education in assessment of pain were shown to be vital in a study of patients with dementia at the end of life. It showed that a fuller understanding of the patients' normal behaviour made it possible to notice behaviour and non-verbal signs of pain, and differentiate them from normal behaviour. Relationships with care professionals and how far those questioned felt their job was appreciated had a strong influence on reporting pain. If the relationships were good, the staff gave full reports on pain, however, if the relationship was unsatisfactory the reports were superficial or unclear. The nurses expressed the need for more training and improving their skills in using and reporting pain related techniques (31, 32). Health-care staff mentioned listed assessment of pain in the emergency ward and talking to family members as useful (33). In order to gather information about the patients' pain from a variety of sources, over time and from various members of staff, then bring all this together to create an individual image of each patient's condition, all staff need to contribute and work together, and it takes time (34). The nurses also mentioned that they noted facial expressions, restlessness, groaning, tension, and behaviour changes (35) as factors

of communication and pain evaluation in patients with dementia. Despite their lack of time and ever-increasing stress, intensive care nurses gave thought to what could be improved on the ward to help both nurses and patients with dementia.

Study limitations

The sample is quite small and limited to intensive care nurses who work on the orthopaedic surgery ward in normal working hours. The interviews in the present study were partly conducted by the first author, who works on the same ward as the study participants. Due to his pre-understanding of the research subject, this may be considered as a risk for impartiality in the planning, execution and analysis of the research. On the other hand, the investigator's background and his pre-understanding might be advantageous since awareness of the potential problems that may arise in this area. Another limitation of this study might be that it was conducted in the morning and during working hours with intensive care nurses. This may affect their concentration and so the quality of their answers.

6. CONCLUSION

The results of the present study indicate that the assessment of pain in patients with hip fracture and dementia was very important, however, very difficult. Communication varied. Some nurses communicated with these patients as usual, some specifically as with patients with dementia, and some as usual while using shorter sentences and simple language. Lack of information and education about patients with dementia and hip fracture and various ways to assess pain in those patients were difficulties these nurses meet in their assessment of pain. It is important for intensive-care nurses to gain more knowledge and information about these patients, and better coordination between the pre- and postoperative wards regarding this group of patients. Further, communication, reporting and better routines using different ways to assess pain in patients with hip fracture and dementia must also be improved. Various studies with and without patients with hip fracture and dementia might be one way to solve these problems. This could be a good starting point for the future.

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