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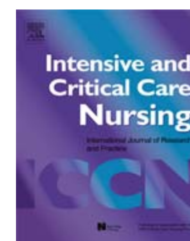

ORIGINAL ARTICLE

Foresight and awareness of incipient changes in a patient' clinical conditions — Perspectives of intensive care nurses

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KEYWORDS
Hermeneutics — phenomenological;
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Sign

Summary
Objectives: The aim of this study was to explore the phenomenon of becoming aware of incipient changes in patient condition from the perspectives and experiences of intensive care nurses.
Research methodology: This study involved close observations of and in-depth interviews with 11 experienced intensive care nurses. The text was analysed using a hermeneutic phenomenological method that was inspired by van Manen.
Setting: This study was undertaken at two different high-technology intensive care units (ICUs) in Norwegian university hospitals.
Findings: Nurses formed images of individual patients composed of signs (of changes in a patient's condition) that were sensory, measurable, and manifested as the mood of the nurse. The signs may be viewed as separate from and opposed to one another, but they are tightly interwoven and interact with one another. Care situations are powerful stimuli for the patient, and it is of great importance for nurses to become aware of signs in these situations. Nurses also ascribe that following the patient over time is important for becoming aware of signs.
Conclusion: An awareness of incipient changes in patient clinical condition requires understanding the ever-changing dynamics of patient condition and dialogic images composed of signs. Care situations and the following of patients through shifts are essential in enabling nurses to detect these signs.
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Implications for clinical practice

- A deeper insight into the process of becoming aware of incipient changes in patients clinical condition from intensive care nurses perspective.
- Pay attention to and develop working routines that enable nurses to following patients through shifts.
- Increased emphasis need to be placed on the process of recognising incipient changes in a patient's clinical condition in education system and nursing practice.

Introduction

Intensive care patients have life-threatening conditions and require close monitoring of their vital functions along with support from advanced equipment and medications to maintain bodily functions. The clinical scenario involving intensive care patients is complex. Such patients have unstable medical and surgical conditions that exhibit high levels of ambiguity, uncertainty and unpredictability. The condition of an intensive care patient can oscillate between good condition and ever-increasing deterioration (Klepstad, 2010; Lakanmaa et al., 2012; Rothschild et al., 2005).

In the new millennium, the context of intensive care has evolved towards a paradigm of lighter sedation (Egerod et al., 2013; Strom and Toft, 2014). Despite being more awake under this lighter sedation, intensive care patients are often unable to express themselves verbally due to their use of a ventilator and because nurses have few communication techniques (or tools) that allow conscious patients to communicate their feelings and needs (Guttormson et al., 2015; Karlsson et al., 2012). Intensive care nurses work in a highly technical environment and must be able to cope with stressful work conditions; moreover, their work has a high level of unpredictability and requires the ability to accurately define and rapidly change priorities (Benner et al., 2011; Swinny, 2010).

A study by Bringsvor et al. (2014) explored the sources of knowledge that intensive care nurses use in their daily nursing practice and described the variety and complexity of the knowledge base of intensive care nurses. Experience-based knowledge is one source of knowledge and is often linked to exercising judgement, tacit knowledge and the clinical gaze. Randen and Bjørk (2010) found that personal experience and intuition are considered by intensive care nurses as more important than research-based knowledge in assessing sedation needs. They also found that formal assessment tools, such as sedation or weaning protocols and objective scoring systems are rarely used in the intensive care unit (ICU) in relation to sedation practice. Additionally, Dykes et al. (2010) reported that critical care nurses identify, intercept, and correct several medical errors that may otherwise lead to serious and potentially lethal adverse events. Their study demonstrates the importance of critical care nurses in promoting patient safety. However, Randen et al. (2013) found that nurses underestimate unpleasant symptoms, such as pain, anxiety and delirium, in mechanically ventilated adult ICU patients. A deeper understanding of unpleasant symptoms and signs may aid nurses in the early recognition of patient problems and in providing improved care.

The deterioration of ward patients and the use of a rapid response system (RRS) team to improve patient outcomes have been the subjects of several studies (Howell et al., 2012; Jäderling et al., 2011; Rothschild et al., 2010). Early warning scores (EWSs) are used to activate the RRS team, and the criteria for summoning the team are typically based on the deterioration of the patient's vital signs (Rothschild et al., 2010). Clinical staff also use the ''worried criterion'' (intuition), which is based on clinical judgement, to activate the RRS team, regardless of whether the patient's condition satisfies any of the formal criteria (Jäderling et al., 2011; Rothschild et al., 2010).

Awareness of incipient changes in a patient's condition and the ability to foresee potential complications are viewed as important in preventing complications and in safeguarding the lives of critically ill patients (Benner et al., 2011; Dykes et al., 2010; Henneman et al., 2012; Swinny, 2010).

However, few studies have examined the actual process of becoming aware of incipient changes in a patient's condition from the perspective of intensive care nurses. Therefore, the aim of the present study was to explore the phenomenon of becoming aware of incipient changes in patient clinical condition from the perspectives of experienced intensive care nurses.

Methods

Study design

This study was qualitative and used the hermeneutic phenomenological approach (van Manen, 2007, 2014). This approach is considered phenomenological (descriptive) because it considers how the phenomenon in question appears, and this approach is hermeneutic (interpretive) because uninterpreted phenomena do not exist (van Manen, 2007).

The aim of this approach is to describe and interpret the way in which we experience the world in everyday situations and relations (van Manen, 2007, 2014). In the present study, the experiences were the experiences of intensive care nurses of the phenomenon of recognising incipient changes in patient conditions. The general approach involves gathering a description of the structure of the lived experiences of a specific phenomenon, where the structure of lived experience is understood as a description of the essence, which refers to ''that what makes a thing what it is'' (van Manen, 2007).

In this search for meaning, the researcher's attitude of openness and sensitivity to the unpredicted and unexpected is important (Dahlberg, 2006; Dahlberg et al., 2008). In the present study, the researcher, an intensive care nurse no

longer working bed-side, practiced openness by asking open-ended questions, asking follow-up questions and pausing so that the nurse could communicate her/his experiences. Furthermore, self-reflection and self-awareness are important attitudes for the phenomenological researcher and are called for in all phases of the research process. Reflexivity can make the researcher sensitive to his or her own role and cultivate a pre-understanding of the phenomenon in the form of experiences, personal beliefs and theories (Dahlberg, 2006; Dahlberg et al., 2008). In the present study, the researcher recorded daily field notes including her own thoughts, reflections and emotions. By recording her personal experiences, she became more aware of her own preconceptions and potential prejudices.

Setting and participants

This study was part of a larger qualitative investigation of the experiences of intensive care nurses of becoming aware of changes in patient conditions and of how changes are communicated in the ICU team. A field study was conducted involving close observations of bedside nursing and in-depth interviews with nurses after their shifts.

This study was conducted at two ICUs in two Norwegian university hospitals, each with 8—10 active intensive care beds. One ICU treated paediatric and adult intensive care patients with medical and surgical conditions as well as trauma (general), and the other treated adult intensive care patients with neurosurgical conditions. The inclusion criteria for nurses in the study were having a diploma in intensive care nursing (90 credits) and a minimum of 5 years of experience in actual ICU. In addition, the nurses had to be on shifts caring for adult ICU patients who were mechanically ventilated and with an expected length of stay of several days. The head of each ICU selected nurses from their ICU based on the inclusion criteria. Eleven nurses were included in the study.

Data collection

Close observation enables the researcher to closely follow the everyday experiences of the subject while retaining a hermeneutic alertness to situations. A researcher who is closely observing situations is both a participant and an observer at the same time (Dahlberg et al., 2008; van Manen, 2007).

In-depth interviews serve the purpose of exploring and gathering experiential narrative material in the form of stories, anecdotes and examples of experiences, which may serve as a resource for developing a richer and deeper understanding of the phenomenon under investigation (van Manen, 2007). In the present study, the researcher conducted close observations and in-depth interviews of 11 intensive care nurses (4 males and 7 females) during a 10-month period from December 2012 to September 2013. Seven nurses were from the general unit and four nurses were from the neurosurgical unit. The nurses work experience in actual ICU ranged from 7—28 years (mean 18). The findings in this paper are mainly based on the in-depth interviews, but the field notes recorded during the shifts formed the basis for the interviews.

Close observations

The nurses were accompanied for 2—3 shifts each. During a shift, the nurse was observed in his/her work and interactions with the ICU patient for whom he/she was responsible. The researcher was an experienced ICU nurse who participated by assisting in simple nursing care. The researcher also participated in formal settings, such as in nursing reports, pre-rounds, and rounds, as well as in interdisciplinary meetings. There was also informal dialogue with the intensive care nurses. The focus of observation was on the participant nurses' verbal or physical interactions with patients or regarding patients within the ICU environment. Field observations were written in a notebook during the shift and included in the data analysis.

In-depth interviews

At the end of the day before the shift change and report, the nurses were interviewed regarding the situations that had occurred during their shift. The interviews sought to elicit the intensive care nurses' accounts of the observed episodes of care and their recall of events by asking them to discuss extracts from the field notes. The nurses were interviewed in the ICU one to three times each for 20—70 minutes per interview, resulting in a total of 24 interviews. The working day in the ICU is unpredictable, and patient condition can quickly deteriorate. Therefore, after some shifts, it was not possible to conduct the interview or the interview was interrupted. All of the interviews were conducted, audio-recorded, and transcribed verbatim by the researcher to aid recall and ensure clarity of transcription.

To facilitate the nurses' recall of emotions and thoughts, the interview had a narrative form and used the following opening question: ''Could you tell me . . .?'' (Dahlberg et al., 2008). The following questions are examples of other questions asked in the interview: ''What did you see?'', ''What did you hear?'', ''Could you tell me what happened?'', ''Could you tell me a little more?'', and ''Can you give an example?''. In narrative interviewing, the goal is to generate detailed descriptions rather than short answers or general statements (Riessman, 2008). Details are important to facilitate a complete understanding of experiences in all their complexity and to include ''specific incidents and turning points, not simply general evaluations'' (p. 24). It is often not necessary to ask many questions. The researcher refrained from interrupting the nurses during the interview to allow the nurses to speak in their own words. Although it may appear to be a hindrance, patience and silence can aid nurses in remembering events, enabling them to continue their story (van Manen, 2007).

Data analysis

Analysis was performed using the reflective methods of van Manen (2007), including thematic and linguistic reflections. The purpose of phenomenological reflection is to identify and reflect on the various aspects and meanings of the nurses' experiences with the phenomenon of recognising early changes in a patient's condition. Thematic reflection refers to the process of recovering meaningful structures

that are embodied in nurses' experiences as represented in a text. Grasping and formulating a thematic understanding is a complex and creative process, and it is not a rule-bound process but rather a free act of ''seeing'' meaning (van Manen, 2007, 2014).

First, we concentrated on the text as a whole. The transcriptions were repeatedly read to enable the researchers to gain an open and immediate impression of each description. The text was then re-read and line-by-line readings of the transcripts were employed for thematic exploration of experiential descriptions. We carefully read each sentence or sentence cluster to obtain an initial understanding of what was said in the nurses' own words. The first phase resulted in a preliminary and open systematisation of the interview text that disclosed something about the nurses' experiences of becoming aware of early changes in a patient's condition. The next phase led to a more focused interpretation and was characterised by a dialogue with the text that included moving between the interview texts themselves and the different thematic meanings that began to emerge. We then asked the following questions: ''What does this mean?'' and ''How is it said?''. In this phase, emerging meanings that appeared to be linked were clustered into a temporary pattern of meanings, which was followed by a process of reflection with the aim of synthesizing the clustered meaning units into a new whole. In the discussion, we used the phenomenology of sensation of the Danish philosopher, Knud Ejler Løgstrup, the thinking of the Norwegian nurse and philosopher, Kari Martinsen and the thinking of Løgstrup in a clinical nursing context to reflect on the themes with the goal of interpreting the text as a whole and arriving at a comprehensive understanding of the awareness of the incipient changes in patients' conditions.

Pre-understanding was challenged in discourses with one another and with other nurses in clinical practice. We discussed the emerging understanding of the experience of early signs of changes in a patient's condition and asked critical, reflective questions such as: ''Is this the meaning or can this mean something else?''.

Ethical considerations

The study was approved by the Norwegian Social Science Data Services (NSD). Close observation of intensive care nurses in ICUs implied that the patients became indirectly involved parties with no real right to refuse. The Regional Committee for Medical and Health Research Ethics (REK) granted dispensation to the project regarding health personnel's confidentiality of patients who were present during the observation based on the first paragraphs of The Health Research Act 29 and Administration Act 13 (REK 2012/622-4). On the basis of the recommendations made by the REK, the patients' families received written and oral information on the research project and the right to make requests on behalf of their relatives. Information was also posted on the wall in the units' corridor. To preserve participants' and patients' complete confidentiality, information from the field notes and interviews was anonymised. All of the participant nurses provided their written, voluntary, informed consent.

During the observations, the researcher paid attention to the patients and their families and focused on preserving patient confidentiality and personal integrity.

Findings

An overall theme, ''Living image takes form'', was apparent in all of the interviews and was described by the following two main themes: ''interwoven and interacting signs'' and ''awareness of signs''.

The essential meaning of the phenomenon of becoming aware of incipient changes in patient clinical condition encompasses the ever-changing dynamics of patient condition and dialogic images that are composed of signs. Sensorial signs exist in an intense interplay with signs that are measurable and manifest as the mood of the nurse. An awareness of these signs is obtained by nurses mainly through care situations and shifts.

These experiences are illuminated in the following text by quotations from the intensive care nurses (ICNs) in this study; these nurses are identified by numbers (e.g., ICN1—ICN11).

Interwoven and interacting signs

Signs that are sensory

The manner in which a nurse perceives events is through her/his natural senses, such as vision, hearing, smell, and touch, allowing the nurse to become aware of small signs that may indicate changes in a patient's condition. The patient's face, eyes, body movements, breath, response to contact and anxiety levels are signs to which nurses ascribe significance:

> ''If he were more awake today, I would look for more facial mimicry, perhaps he would have tried to open his eyes, perhaps tried to open his mouth, but he does not, or whether he had more purposeful movements. There is nothing, no movement against the face or normal movements. He has these little twitches . . . There are no signs of awakening, but the patient is breathing and that is a small sign then, but I had hoped from the report that he would have had more gestures and moved more . . . he does not, so without any movement as far as I can see, [his condition] is not good . . .'' (ICN 6)

Movement of the body can be movement that is normal or pathological, and there may be some quivering or purposeful movements against a tracheal tube:

> ''He is not marked by spasms. He has an abnormal flexion pattern mixed with normal flexion, maybe sometimes extension and that is a bad sign, but it's a mixture of different movements and it is for me a good sign, because it is movement and there is normal flexion present.'' (ICN 7)

> ''There are small movements that seem normal and adequate. Fine, small flexion. Fine, small movements that seem very appropriate. There is more movement of the body, more tone, more movement in the fingers, more purposeful movement and he tries to fight the tracheal tube.'' (ICN 5)

Body movements that are otherwise nearly undetectable are often immediately visible to nurses:

''Small signs, changes may be a shoulder that moves, a foot that moves, an arm or finger, a hand ... (...) some signs of life (...) There may be a little sign that the patient is awake, perhaps whether the patient moves his head slightly ...'' (ICN 3)

Nurses are aware of changes in skin condition, muscle tone and response to stimulus and perceive them as signs of negative or positive development in the patient's condition:

''If you have a patient who looks a bit sallow in the skin. You see that he is a bit pale, cold peripheral. It's that kind of signs that may indicate that there is something under development ... Or if the patient is warm and flushes or has very large rosy cheeks.'' (ICN 5)

''A patient who has been very flaccid, but who starts to get a little more normal muscle tone ... small movements that seem normal and adequate, a nice bit of flexion, the patient responds adequately in relation to the stimuli you give, those kind of small, small signs.'' (ICN 5)

Signs that are measurable

The nurses monitor measurable parameters such as blood pressure, pulse, temperature, heart rate, intracranial pressure and secretions from surgical drains. Data from bedside monitors and computerised information systems, such as the ventilator, complex invasive haemodynamic monitoring and the dialysis machine, are monitored and assembled with the other measurable parameters into a schema:

''I saw that she was tired today and influenced by all medicines she got late last night, but she had still a better day in relation to the pain. Respiratory function was fine even though she had quite a bit of pleural effusion. She got one litre of oxygen and she had 14 in PO2 and 98—99 in saturation despite her breathing on her own was only five per minute, but you looked at her and saw that she had nice color in the face and lips. She was not cyanotic, there were no signs of oxygen deficiency, no flaring of the nostrils and she breathed deeply and well ...'' (ICN 4)

Signs that manifest as a mood in the intensive care nurse

The participants described that they are impacted by some aspects of the situation and they can sense that there is a fluctuation in the patient's condition. There is something about the patient and the situation that creates an impression. However, she/he may find it difficult to interpret sensorial input or to state in words what the change entails. This impression foreshadows a specific mood that can be positive, wherein the nurse feels that the patient's condition is improving, or negative, wherein the nurse believes that something is not right or that the patient is at risk of sudden decline in his/her condition:

''I think that when I go that way and walk around the bed it is something that makes me like alert ... stressed or I see that the patient is stressed or that something is not right. Sometimes I have no idea what it is, but I just feel that I must assess very well and I become very stringent. It makes me very rule-governed and I think that I need to properly go through the checklist ...'' (ICN 8)

''I can get a sense that there is a change in the situation and I start looking for what could potentially be the problem. Sometimes I find something, other times I cannot find anything. In those cases [that] I cannot find anything, I don't stop to looking, I have an increased awareness and follow [up] with the patient...'' (ICN 2)

Awareness to signs

Care situations

During care situations, such as oral hygiene, tracheal suction, mobilisation to the bedside and changing the patient's position in bed, nurses sense signs, such as muscle tone, movement of the body, skin condition, cough and wakefulness. The following statements exemplify this assertion:

''There was no sign of blood pressure or pulse rise when changing the patient's position in bed. He lies there and his lips are moving, but he does that all the time. He did not cough when we turned him over. It remains to be seen if he responds to tracheal suction ...'' (ICN 6)

''That's how he responds to oral hygiene, today it was no problem brushing the inside of his teeth or the chewing surfaces of his teeth, where it can often be a problem, there are spasms in the jaw and one cannot get inside the mouth with the toothbrush. Here it went fine and it is for me a good sign ...'' (ICN 7)

Care situations are powerful stimuli for the patient and are of great importance for the nurse in enabling them to develop an impression of the patient:

''He is very heavy and tired, but when we put him up on the bed side, we get a completely different picture of him. It is a great stimulus and then we could see how he reacts ...'' (ICN 7)

Shifts

A patient's condition can develop and change within a shift or between shifts. The nurse forms an image of the patient at the beginning of the shift as a starting point, which enables her/him to become aware of changes in the patient's condition. One participant described this by referring to her/his experiences with a patient in whom sepsis was developing:

''It was so strange how she changed appearance, her nose became slightly pointed and her cheeks were sunken, and the cheekbones became very visible, bluish in skin color. I turned on more light to see if it was true, I thought it was a change in face shape ... It was not like that a few hours before ... We had basic monitoring of her, but it was nothing special [regarding the parameters]'' (ICN 11)

Nurses follow patients from one shift to another, and impressions from the previous shift are compared to those formed at the beginning of the next shift. The nurse is looking for signs of change, such as wakefulness, eye contact, body movement, and response to care activities:

''I thought he was a little more awake the last time I was with him ... A little more spontaneous eye opening, he looked a little out, although he looked at me and did not give eye contact. He hugged my hand twice on request, and it seemed like it was adequate because he repeated it ... Today I asked him to clasp my hand, but he does not. Today he seems more tired, lie with his eyes closed, and he opens them only upon stimulation ...'' (ICN 5)

Discussion

The main finding of this study was that nurses develop foresight and awareness of incipient changes in a patient's condition through images or impressions that are composed of signs. Through bodily senses (i.e., vision, hearing, smell, and touch), nurses sense signs of changes in patient condition, such as wakefulness, response to contact, body movements, eye contact, facial expression, and the smell and colour of secretions. According to Løgstrup (1995a), we exist emplaced in the world with our senses. Martinsen (2012) explains that when nurses in a clinical context are sensitive and attentive, they are receptive, touched and moved to respond to the appeals and needs of the patient. In relation to our findings, this statement means that nurses are receptive to patients' bodily expressions, such as eye contact, facial expression, body movement, wakefulness, and anxiety.

In its purest form, sensation comes entirely stripped of any interpretation or conscious understanding (Løgstrup, 1995b). The nurse is touched and moved by something in his/her situational encounter; i.e., there is something occurring with the patient that makes an impression and has the power to attune the nurse to a positive or negative mood. Løgstrup's (Løgstrup, 1995b, 2013) phenomenology of sensation describes an impression as always being sense-based and tuned. In relation to our findings, the correlate is that whenever nurses see, hear, touch, or smell, she/he always acquires an impression of what she/he sees, hears, touches, or smells. An impression moves and affects a nurse, and it leads to an attuned awareness directed towards the patient. Nurses ascribe significance to impressions and to being moved by following and recognising early changes in a patient's condition. This observation is similar to the findings of Randen and Bjørk (2010), who demonstrated that personal experiences and intuition are considered important by nurses in assessing sedation needs. This observation may also be congruent with the findings of Jäderling et al. (2011) and Rothschild et al. (2010), in which staff members used the ''worried criterion'' as an early warning criterion (intuition); this finding is also similar to that of Howell et al. (2012), in which ''nursing concern'' was a criterion for activating the RRS in the absence of vital sign criteria. Benner et al. (2011) used the term ''intuitive'' to refer to a sense of salience and a sense of attentiveness based on nurses' experiences in past concrete situations.

According to Løgstrup (1995b), we sense impressions as though they are speech; these attuned impressions carry a prelinguistic meaning that will eventually be articulated. Martinsen (2008a) explained that to receive an impression is to be sensitively moved. Knowledge is obtained when the impression is expressed. In interpreting the impression, the nurse is open in the present situation to perceiving several sides of the patient and to obtaining a more accurate overall impression, as nurses have expressed. In relation to our study, nurses attempt to understand what has made an impression and begin to examine the patient through her/his senses and by monitoring. In some cases, the nurse is attentive to signs of change in the patient's condition, whereas in other cases, she/he is unable to identify anything. However, she/he does not stop ''searching'' because she/he has been touched by the attuned impression, which leads to increased attention towards the patient and bedside monitoring.

As Løgstrup (2013) explains, without distance, we would be lost in sensation and unable to understand. With language, understanding creates distance from what we understand and creates a space for thinking and action. According to Martinsen (2008a), understanding gives us distance so that we can structure the sensual impression that nature and people give us and express it so that others understand it. In relation to our findings, the corollary is that the nurse enters into a dialogue with the situation and dwells on the impression that has moved her/him. In this space, or what Løgstrup (1995c) calls ''the fictional space of understanding'', nurses are being reminded of something in a spontaneous, intuitive flash of insight. Løgstrup (2013) stresses that we must pursue a spontaneous flash of insight immediately when and where it occurs because it is a unique and a onetime constellation; otherwise, we may lose it. In the context of the present study, this insight could arise from a change in the shape of the face, a change in the skin condition, a brief moment of eye contact, or the movement of an eyelid, finger, or shoulder.

Sensation has an analogue character that brings out variations and contexts of the situation, thereby allowing the situation to be considered from several perspectives (Martinsen, 2008a, 2008b). With regard to our findings, the corollary is that through living images, the nurse is reminded of something else that evokes something inside her/him based on the nurse's past experiences and knowledge. The nurse is suddenly able to envision new analogies, and she/he perceives likeness in the difference. According to Løgstrup (1995b), there is something that is the same in the difference, and we may consider something else under the impression of one or the other.

The nurses follow measurable parameters, such as intracranial pressure, temperature, heart rhythm, and respiration values, and they consider these parameters in relation to sensory signs, such as awakening, contact with the patient, skin colour and patient management of respiratory effort. These views are similar to nurses' views in other studies (Henneman et al., 2012; Randen et al., 2013).

Signs that are sensorial and signs that are measurable may be viewed as separate from and opposed to one another, but they are dependent on one another. In nurses' daily practices, sensory signs are tightly interwoven and are included in the interaction with signs that can be measured and with signs that manifest as a mood in the nurse. We considered this phenomenon as what Løgstrup (2013) described ''united opposites'', i.e., phenomena that are different, that cannot exist without one another, and that strengthen one another mutually in their diversity.

Care situations, such as body hygiene, skin care, mouth care, changing position in bed and tracheal suction, are ascribed special meaning as signs of incipient changes in a patient's condition. Through care situations, nurses form an impression of the patient and can sense signs, such as response to stimuli, wakefulness, eye contact, body strength and body movements. This observation is consistent with that of Martinsen (2008a), who stated that ''we grasp something through our practical dealings with things, people and nature''.

Study limitations

One limitation of the present study was the small sample size. However, our aim was not to generalise our findings but to present rich descriptions of the phenomenon in question in a way that enables the reader to evaluate possible transferability to other contexts. We argue that the insights and knowledge gained from this study may be of benefit to nursing practice, education and future research. The nurses' length of critical care experience and total nursing experience was not considered in evaluating the responses. It is possible that the findings evaluated here vary among different subgroups. Other limitations of the present study were that the number of interviews and the time frame of the interviews differed among the participants and may have influenced the findings. Limitations and opportunities involved in investigating clinical practice in one's own field must also be acknowledged. As a researcher, being an experienced ICU nurse and knowing the field may facilitate access to insights, but it might also limit perspective during data collection and analysis.

Conclusion

This study offers insights into the phenomenon of becoming aware of incipient changes in patient clinical condition from the perspectives and experiences of intensive care nurses. Nurses foresee and are aware of early changes in patients' clinical conditions through living images composed of signs that may be viewed as separate from and opposed to one another but that are interdependent. In a nurse's daily practice, sensory signs are tightly interwoven and are included in the interaction with signs that are measurable and with signs that manifest as a mood in the nurse. Our findings also revealed that care situations, such as body hygiene, mouth care, changing position in bed and tracheal suction, as well as following patients through shifts are essential for nurses to perceive these signs.

Conflict of interest

The authors have no conflict of interest to declare.

Ethical statements

None declared.

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