

Applied interventions by surgical nurses when “nurses’ worry” is present: A qualitative focus-group study

Master thesis

Name:	F.B.A.L. Peerboom
Student number:	6139442
Course:	Research internship II
Course instructor:	Dr. S. Weldam
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Supervisor / Principal investigator:	Prof. Dr. L. Schoonhoven
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Abstract

TITLE Applied interventions by surgical nurses when “nurses’ worry” is present.

BACKGROUND Hospital nurses commonly observe and respond to deterioration using the Early Warning Score (EWS). Surgical ward nurses are highly engaged in the process of early recognition of and response to deterioration. These deterioration responses are based on deviating vital signs, while nurses also act on more subjective indicators like worry. Both scientific literature and (inter)national guidelines do not mention any information about acting upon nurses’ worry.

AIM To gain an in-depth understanding of the interventions nurses on surgical wards apply when “nurses’ worry” is present and the EWS does not indicate deterioration ($EWS \geq 3$).

METHOD A generic qualitative focus-group study with registered surgical nurses working at a hospital in the Netherlands was performed. Data was collected by focus-group interviews supported by vignettes. Data was analyzed thematically.

RESULTS Four focus-group interviews were conducted. Two sequential themes emerged from the data: ‘*Searching for explanation and confirmation*’ and ‘*Responding by actively applying nursing interventions*’. Nurses first gathered additional information about the patient and searched for a reference point. Nurses also approached others for co-assessment and verification of their observations, but held back in contacting physicians. Hereafter, nurses responded by applying nursing interventions.

CONCLUSION Nurses mainly try to formalize an in-depth understanding of their feeling of worry to convince a physician to accurately treat the patient. Spending much time on a search to this understanding leads to delays in escalating care.

IMPLICATIONS Nurses and physicians should make agreements on how to act when nurses’ worry is present. In addition, after increasing the amount of scientific evidence on this subject, policy making is needed to create a standardized procedure when nurses’ worry is present.

KEYWORDS “Nursing Staff, Hospital”[Mesh]; “Perioperative Nursing”[Mesh]; “Qualitative Research”[Mesh]; Worry; Interventions.

Samenvatting

TITEL Toegepaste interventies door chirurgische verpleegkundigen wanneer een niet-pluisgevoel aanwezig is.

ACHTERGROND Ziekenhuisverpleegkundigen observeren en reageren op klinische verslechtering van patiënten door middel van de Early Warning Score (EWS). Chirurgische verpleegkundigen hebben veel ervaring met de vroege herkenning van en reactie op klinische verslechtering. Deze reacties zijn gebaseerd op afwijkende vitale waarden, terwijl verpleegkundigen ook reageren op subjectieve indicatoren zoals een niet-pluisgevoel. Zowel wetenschappelijke literatuur als (inter)nationale richtlijnen bevatten geen informatie over het handelen op een niet-pluisgevoel.

DOEL Het verkrijgen van een diepgaand inzicht in de interventies die verpleegkundigen op chirurgische verpleegafdelingen toepassen wanneer een niet-pluisgevoel aanwezig is en de EWS niet duidt op klinische verslechtering ($EWS \geq 3$).

METHODE Een generiek kwalitatief focusgroep onderzoek met gediplomeerde chirurgische verpleegkundigen werkzaam in een Nederlands ziekenhuis werd verricht. Data werd verzameld door focusgroep-interviews die ondersteund werden door vignetten. Data werd thematisch geanalyseerd.

RESULTATEN Vier focus-groep interviews zijn uitgevoerd. Uit de data volgden twee opeenvolgende thema's: '*Op zoek naar uitleg en bevestiging*' en '*Reageren door actieve toepassing van verpleegkundige interventies*'. Allereerst verzamelden de verpleegkundigen aanvullende patiënten-informatie en zochten ze naar een referentiepunt. Verpleegkundigen benaderden bovendien collega's voor medebeoordeling en verificatie van hun observaties, maar waren terughoudend in het contacteren van artsen. Uiteindelijk reageerden verpleegkundigen door verpleegkundige interventies toe te passen.

CONCLUSIE Verpleegkundigen proberen vooral een diepgaand begrip van hun niet-pluisgevoel te formuleren om een arts ervan te overtuigen de patiënt accuraat te behandelen. Het besteden van veel tijd aan de zoektocht naar dit begrip leidt tot vertragingen in het escaleren van patiëntenzorg.

IMPLICATIES Verpleegkundigen en artsen zouden afspraken moeten maken over hoe te handelen bij een niet-pluisgevoel. Bovendien is, na het creëren van meer wetenschappelijk bewijs, beleidsvorming nodig om een gestandaardiseerde procedure te ontwikkelen voor wanneer een niet-pluisgevoel aanwezig is.

SLEUTELWOORDEN "Ziekenhuisverpleegkundigen"; "Perioperatieve verpleging"; "Kwalitatief onderzoek"; Niet-pluisgevoel; Interventies.

Introduction

Nurses are indispensable in the process of adequate patient observation in hospital wards(1). They closely monitor patients, have consistent contact with patients and are the first to recognize and respond to patient deterioration by effectively managing care(1-3). Patient deterioration is defined as “an evolving, predictable and symptomatic process of worsening physiology towards critical illness”(4) and is often preceded by subtle changes in vital parameters(4,5). Having a good understanding of nurses’ observation practice is vital in the recognition and prevention of deterioration(1).

Several measurement instruments have been developed to recognize and act timely on deterioration(5). A commonly used instrument is the Early Warning Score (EWS)(6). This quantitative warning score is based on seven physiologic parameters, like peripheral saturation and heart rate(6). The EWS aims to recognize deterioration as its score increases and to standardize patient assessment(6-8). The EWS protocol recommends follow-up interventions, such as contacting a physician, a Rapid Response Team (RRT), or repeat the EWS measurement(5,9,10).

Observing patients and acting upon clinical deterioration only based on quantitative warning scores like the EWS can, however, be discussed(11). Nurses often apply the measure “worry” as an indicator for intervening or calling for medical assistance(12). This indicator is based on the subjective judgment and clinical reasoning of nurses(1,12,13). Worry alerts nurses, encourages them to start timely interventions, and is an early indicator of deterioration(2,14). It even appears to be present before changes in vital parameters become visible(2,14).

Worry is especially relevant to surgical wards where more patient acuity occurs compared to other regular wards. In addition, surgical nurses are highly engaged in the process of early recognition of and response to deterioration(13,15). Douw et al. recently developed a tool in surgical wards to make nurses’ worry explicit: the Dutch-Early-Nurse-Worry-Indicator-Score (DENWIS)(16). The DENWIS includes nine domains, like ‘change in breathing’, ‘pain’, ‘no progress’, ‘patient indicates’, and ‘subjective nurse observation’(16). Changes in these domains alert nurses in an early stage of deterioration(16).

Despite the added value of the DENWIS in clinical practice, there is no guideline accessory to this tool which advises nurses on follow-up interventions when worry is present. Both scientific literature and (inter)national guidelines do not mention any information about acting upon nurses’ worry(7,8). Nevertheless, this is of great importance as nurses are the first to

respond to a situation, alert, manage care, and initiate timely interventions for a patient(1,2,15,17). Delay in escalating care for deteriorating patients is associated with adverse outcomes, like mortality(18).

Aim

This study aimed to gain an in-depth understanding of the interventions nurses on surgical wards apply when “nurses’ worry” is present and the EWS does not indicate deterioration (EWS \geq 3).

Method

Design

This study had a generic qualitative design using focus-group interviews supported by vignettes. Focus-group interviews created the opportunity to seek clarification on the subject of interest by stimulating discussions(19,20). In addition, focus-groups can reduce nurses’ potential feeling of being judged when interviewed individually about this subject(20). Vignettes were chosen as they were considered a useful tool in explaining complex processes(21) and have been used successfully in exploring clinical decision-making activities(22).

Population and domain

The target population consisted of registered nurses working on two surgical nursing wards at a teaching hospital in the Netherlands. Purposive sampling was applied to create a representative sample. Surgical wards were chosen since nurses at surgical wards are highly engaged in the process of early recognition of and response to clinical deterioration(13,15).

To be eligible to participate in the study, a participant had to be a registered nurse since nursing students’ sense of worry might not be fully developed(23). The nurse also had to work at one of the included wards for at least 20 hours a week to warrant continuity of the nurse’s experience with surgical patients. Registered nurses in their first month of working at the ward were excluded to make sure the participants trusted each other(24).

Data collection

To give direction to the interviews and to insist an open-ended approach, a topic-list was composed (Appendix A). No previous qualitative or closely related quantitative studies about the subject of interest have been conducted. Therefore, the topic-list was based on results of qualitative studies about the process of decision making, clinical reasoning, responding to deterioration, and situation awareness of nurses in clinical settings(25-28). The focus of the

interviews was on the interventions nurses apply when nurses' worry is present and what their underlying motivations are to do this.

Two vignettes (Appendix B) supported the interviews and were developed using the model of Bradbury-Jones et al.(21). Each vignette was based on real-life experiences including at least two DENWIS domains to decrease the subjectivity of nurses' worry(14). This provided the best reflection of reality, improved recognizability, and facilitated the imagination of worry in practice. The first author (FP: a female nurse, nursing researcher and MSc student) developed the vignettes in consultation with LS and an independent researcher. The first vignette described a situation in which a nurse felt worried when she visited a patient. The patient did not look good compared to earlier. Vital signs were not deviating and the patient felt fine. In the second vignette, a patient indicated being afraid and not feeling well. The patient could not indicate why. He was out of breath but did not show any other deviating vital signs. Nevertheless, the nurse felt worried.

Baseline characteristics (age, gender, education level, and working experience) were obtained by FP from the nurses or their supervisor as soon as the nurses agreed to participate. These characteristics were used to create heterogenous focus-groups. The focus-group interviews were conducted between February and April 2020. Data collection ended when saturation was reached (i.e. when the focus-group interviews did not provide any additional insights to answer the research question)(33).

Data analysis

The focus-group interviews were audio-recorded, transcribed verbatim, and analyzed using the thematic analysis approach of Braun and Clarke(29). This approach consists of six iteratively applied phases: familiarizing with data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report(29). The process of transcribing and analyzing was performed by FP after each focus-group.

FP listened to the audio-recordings twice to familiarize with the data. Hereafter, the data was transcribed verbatim. FP read the transcript twice to get a clear view of details and to familiarize further with the data. The transcript was analyzed following the stages of open coding, axial coding, and selective coding(20). Between these stages, new data was compared to earlier obtained data to re-code if necessary. Codes were grouped after the second interview and themes were generated after the third.

In the last phase of thematic analysis, the generated themes were reviewed by FP for their ability to answer the research question and their consistence. The themes were placed in a meaningful and logical order to write the report. In addition, the transcripts of the interviews were reviewed by FP to select rich and meaningful quotes. These quotes contributed to a thick description of the collected data in the report. The analysis process was applied using NVivo12 and the report was structured using the Consolidated Criteria for Reporting Qualitative Research (COREQ) guideline.

Trustworthiness

Four strategies were applied to warrant quality and improve trustworthiness within the study. First, the data analysis was cross-checked by LS and an independent researcher to reduce potential bias resulting from analysis by a single researcher(20). Second, new data was continuously compared to earlier obtained data to iteratively move along the phases and to apply new knowledge or questions in the following interviews. Third, to improve credibility and acceptability of the results(20), one participant of each focus-group was asked to apply a member-check on the interview transcript. Fourth, the interview-approach, topic-list and vignettes were piloted in the first interview to guarantee their quality(19). This pilot did not lead to adjustments and the information collected from this interview was used in the analysis.

Procedures

The study was announced face-to-face and by e-mail to both surgical nursing teams by FP. Two weeks before the start of the study, nurses who met the inclusion criteria were asked face-to-face by their supervisor to participate in the study. The focus-group interview was planned if a nurse agreed. The interview took place in a conference room at the hospital and each nurse's time was compensated as working hours.

FP acted as moderator and facilitated discussions to ensure appropriate themes were discussed and all participants were heard. The interview started with a short explanation of the expectations of the researcher and the planning, goals, and rules of the interview(19,30). After this introduction, the first vignette was used as a 'warming-up' to explain nurses' worry. This could also encourage quiet group members to voice an opinion during the interview(21). The second vignette was introduced halfway the interview to stimulate discussion and to improve recognition in daily practice. Open-ended questions were asked continuously.

Ethical issues

The study was conducted according to the principles of the Declaration of Helsinki(31) and the Medical Research Involving Human Subjects Act (WMO)(32). The Medical Research Ethics Committee of Zuyd University of Applied Sciences and Zuyderland Medical Centre (METC-Z) approved the study (registration number Z2020020).

If a nurse agreed to consider participation in the study, he or she received a participant information form by e-mail and had at least 24 hours to decide whether or not to participate. The nurse was asked to sign an informed consent form by FP before the start of the interview. Participating in the study did not cause risks nor provide benefits to the participants.

Results

Participants & demographic data

The study included four focus-group (FG) interviews of approximately 1.5 hours with five nurses each. Table 1 presents the demographic characteristics of the participants (n = 20). Most participants were female (90%) with a median age of 31 years (range 21-59). The median amount of working experience at the ward was 4 years (range 1-41). Education level was almost equally distributed; 55% had a bachelor level training and 45% received a vocational education.

All approached nurses agreed to participate and were allocated to different focus-groups. Four nurses subsequently dropped out of the study. One nurse because she was needed at the ward and three nurses because of health reasons.

– **Table 1** Characteristics of the surgical nurses (n = 20) –

Findings

Saturation was reached after the fourth focus-group interview and was confirmed by LS after cross-checking data and discussion(33). Two themes emerged from the data (Table 2). The themes represent two sequential phases of acting when nurses' worry is present.

– **Table 2** Themes and categories –

Theme 1: Searching for explanation and confirmation

Nurses stated they were constantly searching for explanation and confirmation of their feeling of worry. Nurses undertook several related actions as described in the following categories.

Gathering additional information

Nurses reported they gathered additional information about the patient they worried about. They observed the patient and asked the patient about their complaints to specify them and to identify their cause. Nurses also performed several measurements. They measured and judged the output of nasal gastric tubes, urinary catheters, and drains, checked intravenous hydration on its function and right amount in relation to blood pressure, urine production, and clinical signs like dyspnea, and repeated vital checks (EWS). The frequency of these measurements differed per nurse and clinical situation. Regularly collecting additional information about the patient was considered important to identify changes and to quickly respond to them if necessary. Changes in the clinical condition of a patient contributed to the urge for nurses to contact a physician:

Quote 1: "I think that triggers me to contact them [physicians] faster and indicate that, in my opinion, the patient has not been well for a while. Checks were normal at first but now they are deviating. Something is not right. They [physicians] often ask "what is not right?". In that case, you have something to demonstrate and you can indicate exactly what is wrong. Supported by those deviating vital signs." (P5, FG4)

Searching for a reference point

Nurses stated they placed the clinical representation of the patient in perspective to create a complete picture of complaints and observations and to explain them. They mainly compared complaints, vital checks and the clinical representation of the patient to earlier during and before the hospitalization. Nurses did this themselves and asked the patient or family members of the patient to make this comparison. In addition, nurses compared the situation or case of interest to another previously experienced case:

Quote 2: "But what does 'normal' mean? You indeed have to look at your patient closely. Imagine, at admission to the hospital the patient has a blood pressure of 140/60. Now, he has a blood pressure of 108/40. That is quite a difference!" (P5, FG1)

Co-assessment

Nurses considered colleague-nurses at the ward and nurses from the RRT approachable experts and equivalent colleagues. Nurses frequently approached them for advice, to confirm their feeling of worry, and for standby support. Even before they contacted a physician for the same reasons. Nurses' feeling of worry regularly appeared to be 'too subjective' according to physicians. This led to incomprehension and caused nurses to be holding back in the approach of physicians. Nurses often did not feel taken seriously by physicians and feared an unpleasant response (Quote 3). Nurses felt more confident of their feeling of worry when they shared this feeling with another nurse and believed this interprofessional confirmation led to a quicker serious response of physicians (Quote 4).

Quote 3: "For physicians it [nurses' worry] is not easy to deal with. They often want to receive specific information, numbers, and quickly ask for vital parameters. ... They sometimes even start laughing at you and ask what you mean with "the patient is not well" or "I do not trust the situation"." (P4, FG2)

Quote 4: "The physician is more inclined to listen or come see the patient if you say that you have already consulted the RRT nurse and he acknowledges the feeling of worry. ... You need to consult more people because you have to convince them. Otherwise, they will not listen." (P2, FG2)

Verification

Nurses considered it important to be convinced they acted properly and verified self-initiated interventions with a physician or colleague-nurse for correctness and acceptability. During their shift and afterwards, nurses structurally evaluated whether they did everything necessary for the patient, if nothing was missed, and if they acted correctly in order to provide the best possible care:

Quote 5: "You know... you are going to think about "did I miss something" or "can I do something else?". Sometimes, I also discuss that with my colleague." (P3, FG3)

Theme 2: Responding by actively applying nursing interventions

After searching for explanation and confirmation, the nurses had a better understanding of their feeling of worry. This understanding made them able to respond to the clinical appearance of the patient. Nurses actively applied nursing interventions as a first step towards helping and comforting the patient as explicated in the following categories.

Being and making alert

Nurses emphasized awareness was essential in a situation they were worried about a patient. Nurses were alert to small changes in the clinical condition and representation of the patient and thus applied interventions, like increasing the frequency of entering the patient's room and making sure the patient was in good sight of the nurses. The nurses also stated they placed the nurse call-system device near the patient and urged the patient to call if he or she felt minor changes in his or her condition. This urge would remove the patient's barrier to call. If a patient calls immediately when changes occur, the nurse can intervene quickly:

Quote 6: "We can see things but the patient can feel the smallest changes in his clinical condition. A lot can change in a few minutes. ... You just want to respond in time and a patient can help you with that by calling directly when he feels something different." (P4, FG4)

Comforting the patient and responding to feelings

Nurses also considered it important the patient felt comfortable and tried to respond to the patient's feelings by adjusting their care accordingly. Nurses saw this as a short- and long-term condition for the patient to make clinical progress and to work on recovery. For example; if a patient was anxious, one nurse attempted to find its cause and to take it away:

Quote 7: "I would ask why the patient is afraid. Maybe he is worried about something or maybe he feels something. ... I would like to receive more information about that. ... When it slowly becomes clearer why he is afraid I can do something for the patient and maybe take the fear away." (P4, FG2)

Optimizing patient position

Nurses attached great importance to the physical position of the patient. Nurses could estimate how the patient was feeling and how the patient was doing when assessing this position. Additionally, the patient's respiratory rate was an important parameter for the nurses and could be measured best in an upright position. Especially with dyspnea, the nurses strived to offer comfort to the patient by having the patient sit upright:

Quote 8: "I ensure that the patient is comfortable in his bed because if he is not... of course, he will not feel well and he will not breathe properly. ... Then I help him up a bit or I just put him in the chair, so that he is in a different position. He will definitely feel better." (P1, FG2)

Discussion

Two sequential themes emerged from the focus-group interviews: '*Searching for explanation and confirmation*' and '*Responding by actively applying nursing interventions*'. The nurses focused on seeking explanation and confirmation collecting additional information, placing this information in perspective, and contacting others for co-assessment and verification. Nurses tried to formalize an in-depth understanding of their feeling of worry to convince a physician to take them seriously and to accurately treat the patient. Nurses actively responded to the information and impressions they gathered by applying nursing interventions to comfort the patient.

These findings are in line with several studies into nurses' clinical judgement models and responses to deterioration. In a literature review of Tanner(34) a clinical judgement model was described, containing: 'noticing', 'interpreting', 'responding', and 'reflecting'(34). The actions nurses in this study described as a response to worry show they went through the same phases of clinical judgement. Nurses' additional assessment is performed to help rule out hypotheses until nurses reach an interpretation that supports most of the information collected(34). This helps nurses to suggest an appropriate response(3,34).

The need for nurses to ask others for co-assessment is in line with studies of Cioffi et al.(3) and Hart et al.(28). Their studies described several interventions of nurses managing patients experiencing clinical deterioration events such as 'contacting an RRT', 'comparing observations to a baseline and noticing changes', 'sharing information and communication with team members', and 'approaching family members'(3,28). Hart et al.(28) described family members as part of the team and that they report accurate and timely changes in patients' conditions assisting with timely intervention and management(28).

Another important finding of this study is that nurses stated they approached colleague- and RRT nurses for standby support so they could quickly assist and act in case of emergency. Alerting other healthcare professionals is considered essential in obtaining prompt help and executing team tasks(23). Though, nurses described they faced barriers in calling for medical assistance as they thought their approach to worry differed from the physicians' approach. Many other studies support those barriers. Nurses' level of confidence is often lacking(35), they perceive the need to justify the call(36), and they fear criticism(2,37). Spending much time on a search to explanation and confirmation to convince a physician to act causes delay in escalating care for possibly deteriorating patients(18). This is associated with adverse outcomes like mortality and therefore jeopardizes patient safety(18).

This study has some limitations. First, the two included wards were specialized surgical wards, which limits the transferability of the study results to other hospital wards. Second, the qualitative design of the study can be associated with a risk of recall- and social desirability bias. However, since the results of this study mostly correspond to the results of other studies this risk is considered negligible. The results of this study are strengthened by the use of member-checks and cross-checked analysis. Those methods improve the reliability of the analysis(20). Also, the interviewer being a direct colleague of the nurses in two of the four focus-groups has probably contributed to a safe interview-environment for the nurses to feel comfortable sharing, sometimes sensitive, information.

This study was the first to give an in-depth understanding of the interventions nurses apply when nurses' worry is present. Three implications for clinical practice can be stated. First, the findings of this study suggest that (surgical) nurses and physicians should share experiences and discuss conflicts and interests. They should make agreements on how to act when nurses' worry is present. This might empower nurses and could eventually reduce delays in escalating care and improve patient safety. Second, more qualitative research into nurses' responses to worry should be performed at other hospital wards to improve the transferability of the study results. Third, after increasing the amount of scientific evidence on this subject, policy making is needed for both nurses and physicians to create a standardized procedure when nurses' worry is present.

Conclusion

This study demonstrates nurses mainly try to formalize an in-depth understanding of their feeling of worry to convince a physician to take them seriously and to accurately treat the patient. Spending much time on a search to explanation and confirmation to convince a physician to act causes delay in escalating care for possibly deteriorating patients. Based on these findings, implications for clinical practice are that nurses and physicians should make agreements on how to act when nurses' worry is present. Also, after increasing the amount of scientific evidence on this subject, policy making is needed for both nurses and physicians to create a standardized procedure when nurses' worry is present.

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Tables

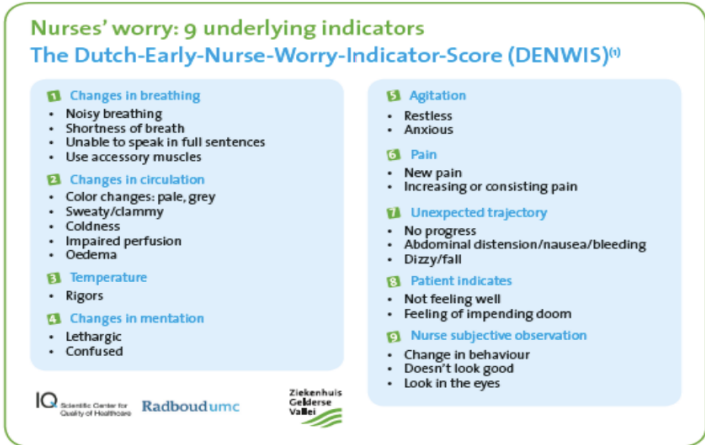
Table 1 Characteristics of the surgical nurses (n = 20)

Characteristics	Median (range)
Age (years)	31 (21-59)
Working experience at the surgical ward (years)	4 (1-41)
	N (%)
Gender (female)	18 (90)
Education level, bachelor	11 (55)
Education level, vocational	9 (45)

Table 2 Themes and categories

Themes	Categories
Theme 1: Searching for explanation and confirmation	Gathering subjective information Gathering objective information Searching for a reference point Co-assessment Verification
	
Theme 2: Responding by actively applying nursing interventions	Comforting the patient and responding to feelings Being and making aware Optimizing patient position

Appendix A: Topic-list

<p>Objective:</p> <ul style="list-style-type: none"> To gain an in-depth understanding of the interventions nurses on surgical wards apply when “nurses’ worry” is present and the EWS does not indicate deterioration (EWS\geq3). 	
<p>Introduction</p>	<ul style="list-style-type: none"> Introduction of the interviewer Clarification of the subject and aim of the study/focus-group Expectations of the focus-group Schedule and duration of the focus-group Purpose of the focus-group No correct or incorrect answers possible Confidentiality Member-check Verbal permission audio-recording Written informed consent Verbal participant identification (voice recognition audio-recording) Questions
<p>Opening question</p>	<p>What do you think is nurses’ worry?</p>
<p>Explication nurses’ worry and explanation DENWIS</p>	 <p>Nurses’ worry: 9 underlying indicators The Dutch-Early-Nurse-Worry-Indicator-Score (DENWIS)⁽¹⁾</p> <ol style="list-style-type: none"> Changes in breathing <ul style="list-style-type: none"> Noisy breathing Shortness of breath Unable to speak in full sentences Use accessory muscles Changes in circulation <ul style="list-style-type: none"> Color changes: pale, grey Sweaty/clammy Coldness Impaired perfusion Oedema Temperature <ul style="list-style-type: none"> Rigors Changes in mentation <ul style="list-style-type: none"> Lethargic Confused Agitation <ul style="list-style-type: none"> Restless Anxious Pain <ul style="list-style-type: none"> New pain Increasing or consisting pain Unexpected trajectory <ul style="list-style-type: none"> No progress Abdominal distension/nausea/bleeding Dizzy/fall Patient indicates <ul style="list-style-type: none"> Not feeling well Feeling of impending doom Nurse subjective observation <ul style="list-style-type: none"> Change in behaviour Doesn’t look good Look in the eyes <p><small>IO Scientific Center for Quality of Healthcare Radboudumc Ziekenhuis Gelderse Vallei</small></p> <p><small>¹ Douw, G., Huisman-de Waal, G., van Zanten, A.R., van der Hoeven, J.G., Schoonhoven, L., 2016. Nurses’ worry’ as predictor of deteriorating surgical ward patients: A prospective cohort study of the Dutch-Early-Nurse-Worry-Indicator-Score. Int J Nurs Stud 59, 134-140. douwgooske@gmail.com</small></p>
<p>Vignette 1</p> <p>Previously experienced situations by participants</p> <p>Vignette 2 (interlude as soon as no additional interventions)</p>	<p>Interventions applied by nurses (where, when, how, what, why):</p> <ul style="list-style-type: none"> Interventions performed on the nurse herself (physical and mental: e.g. putting on gloves, structuring information in mind) Interventions performed on the patient (physical and mental: e.g. insert a peripheral IV needle, comforting) Interventions performed between the nurse and another care provider (interprofessional: e.g. asking a colleague-nurse for help/advice)

<p>are mentioned)</p>	<ul style="list-style-type: none"> • Interventions performed on other persons (family members, other patients: e.g. informing family) • Faciliatory interventions/interventions targeting supporting services (e.g. to set up equipment to measure vital controls) • Interventions concerning the physical environment of the patient (e.g. closing curtains) <p>Reasons for performing the interventions. Probing questions:</p> <ul style="list-style-type: none"> • What exactly do you mean by that? • Can you tell me more about that? • Can you name examples?
<p>Closing</p>	<ul style="list-style-type: none"> • Summarizing • Looking back on the focus-group: did every participant say what he/she wanted to say? • Questions • Closing • Thanking participants

Appendix B: Vignettes

Vignette 1

Your colleague has a morning shift at the ward. Today, she sees Mrs. X for the third day in a row. The lady underwent a laparoscopic sigmoid resection two days ago. When your colleague enters Mrs. X her room in her last round she feels worried. She thinks Mrs. X recovers too slow and she does not look good; a change compared to the past few days, but also compared to her previous round. When your colleague asks Mrs. X how she feels, Mrs. X says that she does feel a bit weak but fine. Her vitals have just been measured. Those are not deviating.

Vignette 2

Your colleague has an evening shift at the ward. He sees Mr. Y for the first time. Mr. Y had a PNL today and has been at the ward for several hours. Mr. Y calls. When your colleague enters Mr. Y's room, Mr. Y indicates that he does not feel well and is afraid. He cannot properly indicate what he feels. He says he is "just a bit short of breath". In your colleague's opinion Mr. Y does not show any abnormal or deviating clinical signs. His vitals have just been measured. Those are not deviating. Though, your colleague does not trust the situation: he feels worried.