



Bedside nurses' perspective on the Fundamentals of Care framework and its application in clinical practice: A multi-site focus group interview study

Åsa Muntlin^{a,b,c,*}, Eva Jangland^d, Brit Laugesen^{e,j}, Siri Lygum Voldbjerg^{f,k}, Lena Gunningberg^g, Kathleen Greenway^h, Clair Merriman^h, Mette Grønkjær^f, Maud Heinenⁱ, Getty Huisman-de Waalⁱ

^a Department of Emergency Care and Internal Medicine, Uppsala University Hospital, Uppsala, Sweden

^b Department of Medical Sciences/Clinical Epidemiology, Uppsala University, Uppsala, Sweden

^c College of Nursing and Health Sciences, Flinders University, Adelaide, South Australia, Australia

^d Department of Surgical Sciences, Uppsala University, Uppsala, Sweden

^e Clinical Nursing Research Unit, Aalborg University Hospital, Denmark

^f Clinical Nursing Research Unit, Aalborg University Hospital, Department of Clinical Medicine, Aalborg University, Denmark

^g Department of Public Health and Caring Sciences, Uppsala University, Uppsala, Sweden

^h Oxford Institute of Nursing, Midwifery and Allied Health Research, Oxford Brookes University, Oxford, England, United Kingdom of Great Britain and Northern Ireland

ⁱ Radboud University Medical Center, Radboud Institute for Healthcare Sciences, IQ Health, Nijmegen, the Netherlands

^j Centre for Clinical Guidelines, Aalborg University, Denmark

^k School of Nursing, University College Nordjylland, Denmark

ARTICLE INFO

Article history:

Received 12 July 2022

Received in revised form 4 May 2023

Accepted 12 May 2023

Available online xxxx

Keywords:

Bedside nurses

Clinical practice

Content analysis

Focus group interviews

Framework

Fundamentals of care

Nursing

ABSTRACT

Background: A changing nursing workforce and an increase in demands for care together with more complex care, raise arguments that leading and guiding nursing practice is more challenging than ever. Therefore, nurses need to have a shared agenda and a common language to show the importance of nursing care and the consequences of not addressing this in an appropriate way. In response to this the Fundamentals of Care framework was developed to also contribute to the delivery of person-centred care in an integrated way. However, to gain acceptance and applicability we need to ensure the framework's relevance to clinical practice from bedside nurses' perspectives. **Objective:** To describe bedside nurses' perspectives on the Fundamentals of Care framework and how it can be applied in clinical practice.

Design: A descriptive qualitative design informed by the Fundamentals of Care framework.

Setting(s): The study was undertaken at seven hospitals in Sweden, Denmark and the Netherlands during 2019.

Participants: A total sample of 53 registered nurses working at the bedside participated. Participants had a wide variety of clinical experience and represented a range of different nursing practice areas.

Methods: Twelve focus group interviews were used to collect data and analysed with a deductive content analysis approach.

Results: Bedside nurses perceived that the Fundamentals of Care framework was adequate, easy to understand and recognised as representative for the core of nursing care. The definition for fundamental care covered many aspects of nursing care, but was also perceived as too general and too idealistic in relation to the registered nurses' work. The participants recognised the elements within the framework, but appeared not to be using this to articulate their practice. Three main categories emerged for implications for clinical practice; guiding reflection on one's work; ensuring person-centred fundamental care and reinforcing nursing leadership.

Conclusions: The Fundamentals of Care framework is perceived by bedside nurses as a modern framework describing the core of nursing. The framework was recognised as having clinical relevance and provides bedside nurses with a common language to articulate the complexity of nursing practice. This knowledge is crucial for bedside nurses both in clinical practice and in leadership roles to be able to speak up for the need to integrate all dimensions of care to achieve person-centred fundamental care. Various activities for reflection, person-centred care and leadership to apply the framework in clinical practice were presented, together with minor suggestions for development of the framework.

* Corresponding author at: Department of Medical Sciences/Clinical Epidemiology, Uppsala University, Uppsala University Hospital, 751 85 Uppsala, Sweden.

E-mail addresses: asa.muntlin@medsci.uu.se (Å. Muntlin), eva.jangland@surgsci.uu.se (E. Jangland), kgreenway@brookes.ac.uk (K. Greenway), cmerriman@brookes.ac.uk (C. Merriman), maud.heinen@radboudumc.nl (M. Heinen), getty.huisman-dewaal@radboudumc.nl (G. Huisman-de Waal).

Tweetable abstract: Bedside nurses recognise their clinical practice within the Fundamentals of Care framework, showing the core of modern nursing.

© 2023 The Author(s). Published by Elsevier Ltd. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

What is already known

- Patients' fundamental care needs are still unmet.
- The Fundamentals of Care framework has been developed to explain how to facilitate a person-centred evidence-based fundamental approach to care.
- Perspectives of academics and educators regarding the framework have been identified.

What this paper adds

- Bedside nurses recognise their clinical practice within the Fundamentals of Care framework, but they are not used to articulating the core of nursing care.
- Various activities for reflection, person-centred care and leadership can be used to apply the framework in clinical practice.
- Evidence to make further refinements of the framework.

1. Background

A changing nursing workforce and an increase in demands for care together with more complex care, raise arguments that leading and guiding nursing practice is more challenging than ever. Patients recall that nursing care is crucial for their recovery (Jangland et al., 2016), however, international research on nursing care demonstrates that patients' fundamental care needs, such as pain relief, mobilisation, nutrition, respect, information and integrity are not being met or ensured in healthcare institutions (Ausserhofer et al., 2014; Darzi, 2018; Jangland et al., 2018; Bagnasco et al., 2020). Deficiencies in nursing care can lead to adverse events and negative nursing sensitive outcomes such as hospital acquired pressure ulcers, malnutrition, falls, infections and mortality (Aiken et al., 2014; Ausserhofer et al., 2014). In addition, patients are not always given the opportunity to be involved in their care and interviews with patients show that the registered nurse's role might not be clear to the patients (Kitson et al., 2013; Jangland et al., 2016). Moving forward and managing these challenges, registered nurses together with nursing leaders as well as medical doctors need to have a shared agenda to show and acknowledge the importance of nursing care within the entire team and in the care of the patient. Also, it is crucial to raise awareness of the consequences of not addressing patients' fundamental care needs at the expected level of nursing care.

1.1. Nursing care – on the agenda

Internationally and nationally, high turnover rates for registered nurses are seen and hospitals struggle with challenges in recruiting and retaining registered nurses (Leineweber et al., 2016; Numminen et al., 2017). The lack of registered nurses working at the bedside (hereafter referred to as bedside nurses) can lead to higher hospital costs and lost productivity, impacting on all of society (Buchan et al., 2022). Furthermore, increased pressure on bedside nurses impacts their ability to perform person-centred and evidence-based nursing care, in accordance with guidelines and laws (Griffiths et al., 2014). Based on these challenges and that patients' fundamental care needs may not be met, a more integrated way of providing care is needed. Provision of person-centred care has become the standard approach in healthcare organisations worldwide to improve performance, to meet patients' needs and involving them in their care in a holistic way (Santana

et al., 2018; Ekman et al., 2021). The concept in itself is well-known, however, how to practice and implement it is a greater challenge and further development of identification of measurement for evaluation is needed (Santana et al., 2018). To succeed with implementation, guidance and structure in how to deliver person-centred care at the bedside is needed as well as utilising nurses' competence and knowledge in achieving such care.

1.2. Development of a framework to support person-centred fundamental care

To contribute to the development and implementation of person-centred fundamental care to be delivered in an integrated way, the International Learning Collaborative was established by a group of nursing leaders in 2008 (International Learning Collaborative, 2022). Based on research and nursing theories, the Fundamentals of Care framework, has been developed to explain and facilitate person-centred evidence-based fundamental care (Kitson et al., 2010; Kitson et al., 2013; Kitson et al., 2014) (Fig. 1). The framework outlines what is involved in the delivery of safe, effective, high-quality fundamental care, and what this care should look like in any healthcare setting and for any care recipient. It emphasises the importance of nurses and other healthcare professionals developing trusting therapeutic relationships with care recipients and their families/carers. It also addresses the need to integrate people's different fundamental needs; namely their physical (e.g., nutrition, mobility) and psychosocial needs (e.g., communication, privacy, dignity), which are mediated through the nurses' relational actions (e.g., active listening, being empathic). The framework outlines that the context in which care is taking place must support care providers to develop relationships and integrate the needs of those for whom they are providing care. The Fundamentals of Care framework is being continuously refined based on experience and research, for example in a Delphi-study a definition for fundamental care and the fundamental care elements was developed further (Feo et al., 2018; Fig. 1). The definition states: *Fundamental care involves actions on the part of the nurse that respect and focus on a person's essential needs to ensure their physical and psychosocial wellbeing. These needs are met by developing a positive and trusting relationship with the person being cared for as well as their family/carers* (Feo et al., 2018, p. 2295).

However, most participants in the Delphi-study were researchers or educators employed at universities and only a few of them identified themselves as registered nurses working at the bedside. This may have led to a more academic and theoretical driven description of fundamental care and the Fundamentals of Care framework. As such, there is a risk that this work will not be credible to use in clinical practice and that bedside nurses will not recognise or relate to the elements as incorporating the full domain of their daily work with patients. We assume that if bedside nurses are to use the Fundamentals of Care framework, it has to be applicable in practice. Therefore, there is a need to deepen the knowledge of bedside nurses' perspectives on patients' fundamental care needs to ensure the Fundamentals of Care framework's relevance to clinical practice and to contribute to the further development of the Fundamentals of Care framework.

1.3. Overall aim

The overall aim is to describe bedside nurses' perspectives on the Fundamentals of Care framework and how it can be applied in clinical practice.

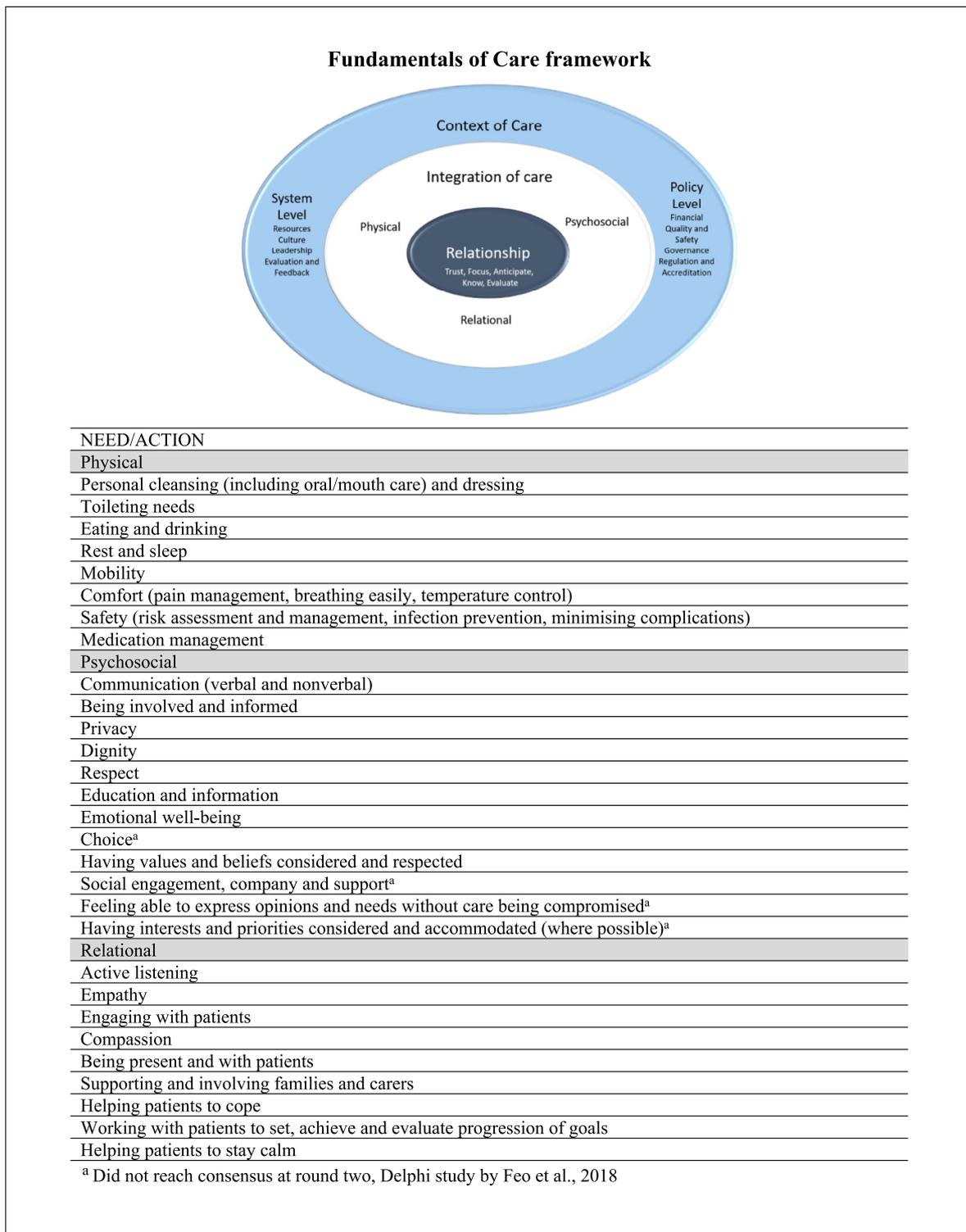


Fig. 1. The Fundamentals of Care framework (version developed in 2016–2017). Reprinted with permission.

The objectives are to describe bedside nurses' perspectives of the following:

1. The overall Fundamentals of Care framework and the definition of fundamental care
2. The fundamental care elements within the Fundamentals of Care framework
3. How the Fundamentals of Care framework could be used in clinical practice.

2. Methods

2.1. Design

This study was a multi-site descriptive qualitative design, informed by the Fundamentals of Care framework, using focus group interviews to collect data. Focus group interviews were used to stimulate an active interaction between the participants to explore the bedside nurses' views and opinions (Morgan, 1997), regarding the

Fundamentals of Care framework, version developed in 2016–2017 (Feo et al., 2018).

2.2. Sample and setting

A stratified purposeful sample selection was used to invite registered nurses working at hospitals in Sweden (two hospitals), Denmark (two hospitals) and the Netherlands (three hospitals). These countries were selected based on their similarities in the health care system in addition to representing different parts of Europe, and have similar educational structures with a bachelor's degree nursing programme. Furthermore, the sites are partners in the International Learning Collaborative network. Initially focus group interviews from the UK were also planned, however, due to the COVID-19 pandemic, the UK site had to postpone their interview sessions.

In order to get a broad view of the nursing perspectives, eligible participants working at two–three hospitals divided between a minimum of one university affiliated hospital and one general hospital within each country, were approached. The following criteria were used:

Inclusion criteria:

Registered nurses working ≥ 24 h per week at the bedside in adult care contexts employed by a university affiliated hospital or a general hospital and with the experience ranging from a minimum of 3 months of working experience as a registered nurse to nurses with extensive experience.

Exclusion criteria:

Registered nurses working less than 24 hour bedside work per week, less than 3 month working experience as a registered nurse, employed by a university, agency staff or temporarily employed and working in hospital contexts other than adult care.

The first step was to identify and select hospitals according to the two different types of hospitals. This was done by the researchers from the different countries. At least one university and one general hospital were asked to participate, with a maximum of three per country. Within these categories of hospitals eligible participants were identified. The plan for the present study was to invite 3–5 participants per focus group (Morgan, 1997). A total of 12 focus groups were conducted (Sweden $n = 4$; Denmark $n = 4$; and the Netherlands $n = 4$) including fifty-three registered nurses from seven hospitals (Table 1). The respondents in the Netherlands had graduated as registered nurses for 5.4 years on average, in Denmark for 13.0 years on average, and in Sweden for 13.1 years on average. The purpose was to construct 'a group of homogenous strangers'. This meant that they were bedside nurses; yet they possessed various levels of experience and fields of practice (Morgan, 1997). Each focus group consisted of a mixed group of registered nurses representing different specialties and workplaces, such as medical and surgical wards in different specialties, emergency departments, cardiac care units, day therapy units, orthopaedic wards, recovery units, emergency care units, geriatric wards, neurologic wards, wound care units and intensive care units. A number of participants withdrew due to work pressures, mainly on the day of the interview.

2.3. Data collection and procedure

An interview guide (see Supplementary file 1) informed by the Delphi study (Feo et al., 2018), the Fundamentals of Care framework and the definition of fundamental care, was used to guide the focus group interviews (Feo et al., 2018). The interview guide was tested for face validity among a number of registered nurses within the included countries. Given that data was collected across three different countries, a structured approach to focus groups was used to achieve a more comparable fashion (Morgan, 1997). Therefore, the English version of the Fundamentals of Care framework (Feo et al., 2018) was used during

Table 1
Demographic characteristics of participants (total $n = 53$).

Participants' demographic background/study sites	Netherlands (n = 23)	Denmark (n = 16)	Sweden (n = 14)
Age ^b (years)	27 (21–62)	38 (24–64)	44 (26–65)
Sex ^a			
Female	20 (87%)	16 (100%)	13 (87%)
Male	3 (13%)	0 (0%)	1 (7%)
Education ^a			
Bachelor's degree	18 (78%)	12 (75%)	9 (60%)
Master's degree	2 (9%)	0 (0%)	3 (20%)
Vocational educated	1 (4%)	0 (0%)	0 (0%)
In-service educated	1 (4%)	0 (0%)	0 (0%)
Additional education ^a			
Diploma	0 (0%)	1 (6%)	0 (0%)
Specialised in clinical supervision	0 (0%)	1 (6%)	1 (7%)
Specialised in intensive care	1 (4%)	2 (13%)	0 (0%)
Specialised in clinical nursing	0 (0%)	0 (0%)	4 (27%)
Years as a registered nurse ^b	5.4 (1.0–37.0)	13.1 (1.0–39.0)	13 (1.0–45)
Type of hospital ^a			
University affiliated hospital	15 (65%)	12 (75%)	6 (40%)
General hospital	8 (35%)	4 (25%)	8 (53%)
University affiliated hospital			
Number of patient beds	1065	787	800
Number of employees	11,000	6646	8600
Number of registered nurses	2000	2933	2300
General hospital/s ^c			
Number of patient beds	417/766	73	68
Number of employees	3229/4973	510	500
Number of registered nurses	1050/1500	224	200

^a Represented as: n (%).

^b Represented as: median (range).

^c Represented as: two different general hospitals in the Netherlands.

the focus group interviews. However, the focus group interviews were conducted in the country's native language to avoid misunderstandings.

The head nurse at different wards and units assisted with the distribution of the 'invitation to participate' letter. Verbal and written information about the study was provided at information meetings conducted by the local research team members. Bedside nurses interested in participating in the study received further information about the date, time and place for the focus group interview by email or by personal contact. They also received a short information sheet around the definition of fundamental care and the Fundamentals of Care framework, together with a template for demographic background information (Table 1) and informed consent to be completed and submitted before the focus group interview started.

To set the scene, the interview started with an opening question regarding participants' brief thoughts about the topic to be discussed. This was also an opportunity for all participants to present themselves by name to facilitate the transcription of the audio recording. Then, the moderator introduced the definition of fundamental care and the Fundamentals of Care framework followed by the focus group interview guided by the interview guide.

The focus group interviews were led by one of the local research team members, the moderator, together with a notetaker who acted as an observer (Morgan, 1997). The moderator involvement was limited, to not affect the participants' interactions (Morgan, 1997). Also, the decision was made to use one of the research team members as a moderator, to be able to answer questions related to the research project (Tausch and Menold, 2016). Each focus group interview took place in the hospital and lasted between 60 and 90 min and was audio recorded and transcribed verbatim.

2.4. Data analysis

A descriptive deductive content analysis was undertaken (Elo and Kyngas, 2008). The data analysis was driven by the definition for fundamental care and the Fundamentals of Care framework and its elements (Fig. 1).

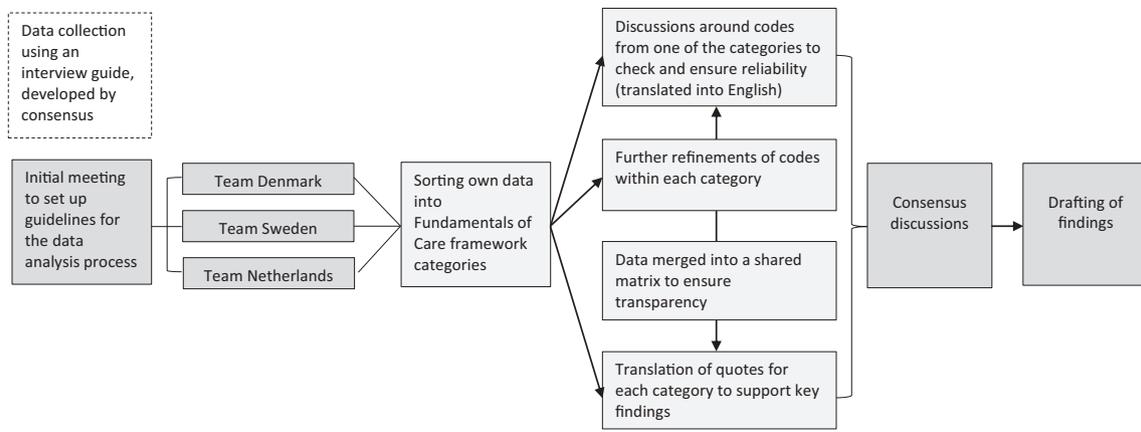


Fig. 2. Displaying the data analysis process.

The data analysis process started with identification of meaning units and initial coding, thereafter, sorting codes in relation to the Fundamentals of Care framework (Fig. 2). An ongoing collaborative discussion between the research team members guided the final coding and categorisation. Codes were translated into English to undertake the data analysis in a transparent approach within the international research team. The data is presented as categories representing the elements and dimensions within the Fundamentals of Care framework. To stress the bedside nurses' perspectives quotations from each country were used citing the country name and code. All translations were undertaken by the team members, respectively. Findings related to feasibility of the Fundamentals of Care framework were synthesised and presented as categories representing application for clinical practice.

2.5. Ethical considerations

The study addresses international ethical guidelines such as Declaration of Helsinki (World Medical Association, 2013). The study is part of a research project (Euro2Care), where ethical approvals have been gained within each country (Sweden dnr 2019-00071; Denmark dnr 2019-37; and the Netherlands dnr 2019-5262). Signed informed consent was obtained before each focus group interview started. The findings from all focus group interviews have been compiled and the results are reported only at group level so no individual participant can be identified. All material has been handled in a confidential manner and stored in a locked room and on digital media with password protection, respectively.

3. Results

The bedside nurses' perspectives are outlined in the following main categories; The Fundamentals of Care framework and definition of fundamental care, Elements within the Fundamentals of Care framework and Application of the framework in clinical practice.

3.1. The Fundamentals of Care framework and definition of fundamental care

In general, the bedside nurses said that the Fundamentals of Care framework shows the essence of nursing expressed as 'it's a complete picture of all important aspects' (the Netherlands, Q4) and is easy to understand as mentioned by participants in a Danish focus group interview;

Yes, this is what you are working to achieve every day at work...it is what you wish for when you go home, that you have taken care of the patients' essential needs based on a good relationship.

(Denmark Q2)

Bedside nurses from all three countries found that the fundamental care needs of patients and families are covered in the framework

and recognised that the elements are connected to each other. Some Swedish bedside nurses regarded the framework as too general and indicated that it was difficult to separate the different elements referring to relationship;

It is difficult for me to separate this 'square' [relational] from 'relationship' [...] I don't get it – that level of difference [relational nursing actions vs establishing relationship].

(Sweden Q9)

The bedside nurses identified the benefits of the framework including context of care and policy level. They felt it was important that the framework includes these preconditions, so they can use the framework to discuss workload for instance. The participants from the three countries were positive about the fact that all parts of the framework seem to link together;

I think that it is very clear [in the framework] that the nurse–patient relationship is the core. Yes, as you said. It is very clear. And then the context of care ...keeps everything together. Or, I think it [the framework] is very good from that point of view, it makes it clear in this way, the context of care is the outside surface, keeping it together. The core is the one thing that is important, the primary so to say, the relationship with the patient.

(Sweden Q8)

In addition to the framework, the participating bedside nurses reviewed the definition for fundamental care. They found that the definition showed what nursing is all about in an easily understandable way. Bedside nurses from the three countries stated that the relationship between the nurse and the patient and their family is essential and that this is represented in the definition. The words 'trust' and 'focus' were considered important because they were regarded as preconditions to the patients' health; making them feel safe and heard. Furthermore, bedside nurses stated the definition to cover all elements within the integration of care dimension (physical, psychosocial and relational) to be equally important. The definition was regarded as informative and as giving a deeper insight into the nursing profession;

A deeper insight into the description of the nurse's work. 'Respect' and 'focus' in the definition is seen as essential to the health of the patient, makes them feel safe and heard and there is certain attention.

(the Netherlands Q1)

Some bedside nurses additionally indicated that the definition seemed to be formulated more like a goal and reflecting a holistic view of human beings;

I think it is way too difficult to live up to such a perfect definition because of the conditions we have in nursing. Sometimes it is simply too busy to lean on this (D1, I1) But it is not wrong to have such goals, it is not wrong to have values (for nursing care).

(Denmark Q3)

The bedside nurses also identified some ambiguities in the definition and the elements. The word 'positive' in terms of the relationship between the nurse and the patient/family was a reason for discussion. The bedside nurses stated that not all patient relationships are experienced as positive, however nurses have to stay professional and provide the best care possible even if a patient or family member displays challenging behaviour. The suggestion from the bedside nurses in Sweden and the Netherlands was to change the word 'positive' in the definition into 'professional' and/or 'trusting';

Well, but [quoting from the definition] "these needs are met by developing a positive and trusting relationship". There are bad relationships too. When the patients are angry and do not want to cooperate. We try to provide nursing care anyhow. But of course, the goal is that it should be a positive relationship, even though it is not that positive all the times. But I think 'professional' is better than 'positive and trusted', that specific sentence.

(Sweden Q11)

Furthermore, bedside nurses highlighted that the definition should also include something about the 'context of care' as it is one of the dimensions of the framework. Another remark about the framework was that the term interprofessional teamwork and person-centred care are not covered in the framework;

It would also be considered person-oriented if the patient and family/caregivers were listed in the inner circle.

(The Netherlands Q12)

3.2. Elements within the Fundamentals of Care framework

Bedside nurses from all three countries recognised the elements (establishing relationship, integration of care and context of care) within the framework. They realised however, that they were not used to articulating their nursing practice. In some focus group interviews from Sweden and the Netherlands there was confusion about words framed as nursing actions (for example: being empathetic, being respectful) mixed with patient needs (for example: eating and drinking or safety).

3.2.1. Establishing relationship

Bedside nurses from the three countries highlighted the relevance of the relationship being central in the Fundamentals of Care framework as they perceived that establishing a relationship is central to nursing. They also highlighted in some situations for example a life-threatening situation, the relationship is not the most important aspect because immediate action is needed. However, overall bedside nurses saw the nurse-patient relationship as the core of nursing and as a reciprocal phenomenon;

When I think of the most central which you mention is in the middle (the relationship). You can say that the establishment of a relationship is prerequisite for nursing. It is the main reason that we can provide nursing, otherwise people (patients) would probably say that you are not allowed to help me today.

(Denmark Q13)

Although recognising the importance of the relationship, bedside nurses stated that it is sometimes challenging due to communication

problems (not further explained during the interviews), language barriers, lack of resources or lack of trust;

I just think it can be difficult to establish a relation if the resources and time are sparse. Or if you are in a team on a shift where you are the one to help your colleagues – then I feel it is difficult to establish the core (the relationship) with the patients.

(Denmark Q15)

3.2.2. Integration of care

The bedside nurses welcomed the fact that the integration of care in the framework includes physical, relational and psychosocial needs/actions, although some of the bedside nurses thought it was a little confusing because 'the relationship' already was placed in the centre of the framework as well as in the integration of care;

I think it is a bit repetitive [with relational needs or actions]. It is already presented in the middle [of the framework]. Maybe you should expand the inner core instead ... so you not need to repeat it ones more.

(Sweden Q16)

Bedside nurses from the three countries found that some words used in the framework (integration of care) are confusing because they are framed as nursing actions, but could be seen as patient needs as well (physical and psychosocial). The distinction between patient needs and nursing actions shown in the integration of care was not clear to the bedside nurses.

The bedside nurses perceived that the physical needs are generally covered in the framework. They expressed that the physical needs are the most visible needs of patients and often prioritised in hospital care and that they are easily met in daily practice. However, the psychosocial part of the framework was seen as very important by all participating bedside nurses, but these needs were described as more difficult to meet whilst working at the bedside;

It is often the psychosocial needs that are not prioritized. The patients are fed, having vital signs measured, they are quickly washed, and they have their teeth brushed. It is really a minimum (of care that is provided) but it is the physical elements that are prioritized because we have to do that, it is what we get measured on.

(Denmark Q20)

An issue in the relational part of the integration of care discussed during focus group interviews in all countries, was the phrase 'Helping patients to stay calm'. The expression was found to be patronising, and 'stay calm' is not an end in itself. The bedside nurses stressed that if a patient or a relative is upset, angry and/or worried, because of a specific situation, and shouts at you, you don't want the patient to stay calm, but listen to you;

I don't think it is an end purpose to be calm. Is that really the best? Who decides that? If a patient is upset, angry and shouts at you – or a relative by means – which often happens in health care – very often. It is not necessary that I want them to stay calm, I want them to listen to what I say.

(Sweden Q25)

The bedside nurses stated that some elements could be added to the framework, for example, wound care, spirituality and also administrative tasks. Also, they mentioned that patient participation should be more visible in the framework to show the importance of collaboration with the patient. One of the Dutch bedside nurses mentioned that prevention and lifestyle are also important to be included, and in the Swedish and the Dutch focus group interviews the vital signs were mentioned as important aspects to be added;

Vital signs are such an important part of our job/responsibility that it would be good to show them in the framework.

(the Netherlands Q30)

3.2.3. Context of care

Across the countries, the context of care was seen as an integral and important part of the Fundamentals of Care framework as it is essential to the provision of high-quality nursing care;

But I think that it is important that the context is a part of the framework because of the political and organizational pressure on the nursing care you wish to provide. It also has an influence on the physical environment and conditions, equipment etc. Therefore, I think it is very important that it is in the framework – if it wasn't then the framework would reflect that we had all possibilities in nursing which would be great, but it wouldn't be realistic.

(Denmark Q28)

However, the elements within this dimension were more often, from their perspectives, seen as limitations to achieve high-quality care rather than prerequisites as stated within the framework.

Bedside nurses mentioned leadership in several focus group interviews as an important aspect for nursing care. The participants said that effective leadership is required to change practice and to improve the quality of nursing care, and they welcomed that the framework confirms this. They did not only regard leadership at a higher management level, but also as everyday leadership at the bedside with a direct impact on patient care;

One can also look at our own leadership, which we really practice every day. That is also important, when there are too many patients [in the emergency department].

(Sweden Q29)

3.3. Application of the framework in clinical practice

Suggestions of the application of the framework described by the bedside nurses from the three countries are presented in three main categories: *Guiding reflection on one's work*; *Ensuring person-centred fundamental care* and *Reinforcing nursing leadership*.

3.3.1. Guiding reflection on one's work

The bedside nurses suggested using the framework as a tool in daily practice to 'check', 'evaluate' and/or 'reflect upon' the care given to patients.

The bedside nurses highlighted the need to reflect on their own work at the end of a shift. They identified the framework as a useful tool for reflection and evaluation to avoid 'being stuck in old routines'. This was expressed by participants from all three countries;

And then you could use it against yourself. If you think,... that you use it after the shift, and just consider "What have I done today?" Then you can see: "Yes, but I met every step, except for these three things. Why did I not do that?" Then you can evaluate your own work. "Yes, it was because this happened, or because it was just forgotten." Or so... yes, you get a little self-thinking, how you can be improved yourself as well.

(Sweden Q33)

3.3.2. Ensuring person-centred fundamental care

The bedside nurses expressed that the framework could support them in ensuring that person-centred fundamental care is provided,

by helping them to structure that all the patient's needs are being met and to support writing nursing care plans;

So having this [the framework] could be a structured way of working.
(Sweden Q35)

The Fundamental of Care Framework could help you during the day to get an overall picture of the patient, and to evaluate whether you have a good insight into the patient's needs.

(the Netherlands Q32)

Also, it could be used in multidisciplinary meetings involving family members;

The framework could be used in patient consultation or multidisciplinary consultation, lists all points and makes it clear what to focus on for a specific patient.

(the Netherlands Q34)

3.3.3. Reinforcing leadership in fundamental nursing care

Finally, bedside nurses from all three countries addressed the opportunities of using the framework in 'reinforcing nursing leadership' and discussing what is needed at the organisational level to provide high quality nursing care. The bedside nurses highlighted that the framework could be used by nursing managers to support and guide change of nursing practice;

This [the framework] can be used as a checklist for every level, from director to bedside.

(Sweden Q39)

But it could also be used to strengthen bedside nurses' own leadership during their daily work;

One can also look at our own leadership, which we really practice every day. That is also important, when there are too many patients [in the emergency department].

(Sweden Q29)

The framework could be used during evaluation moments within the nursing team, but also by managers and even organisations, to evaluate on a larger scale what nursing is about and how important nurses are in the light of patient outcomes. Nurses should be involved in hospital boards to make clear the importance of nursing.

(the Netherlands Q38)

In summary, the bedside nurses described the Fundamentals of Care framework as an adequate framework, easy to understand and recognised as representative for the core of nursing care. However, they suggested some refinements, covering both wording and content to make the framework more applicable in clinical practice (Table 2).

4. Discussion

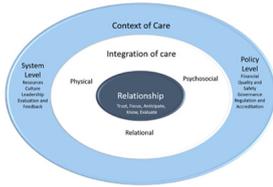
The findings illuminate that the Fundamentals of Care framework was recognised as reflecting the essence of nursing care and that the framework could be applied in clinical practice in regard to education, direct patient care and leadership.

The bedside nurses recognised in the focus group interviews – across the three countries – that the framework was easy to understand and displays the essence of nursing in a modern way. This is an important confirmation of the purpose of the Fundamentals of Care framework, as the intention with the framework was to contribute to the

Table 2

Summary of the bedside nurses' perspectives on the Fundamentals of Care framework and areas for refinements for clinical application.

The Fundamentals of Care framework		
Original definition and framework	Main findings categories	Suggested refinements
The definition of fundamental care Fundamental care involves actions on the part of the nurse that respect and focus on a person's essential needs to ensure their physical and psychosocial wellbeing. These needs are met by developing a positive and trusting relationship with the person being cared for as well as their family/carers The framework	The Fundamentals of Care framework and definition of fundamental care	Considering wording. Include all dimensions of the framework. Add core concepts like interprofessional teamwork and person-centred care. Make it more specific and not so idealistic.
	Elements within the Fundamentals of Care framework	Considering the use of 'relationship' only in one dimension. Wording to be more person-centred instead of patronising. Highlight patient participation more. Include other elements, for example; spirituality, patient participation and vital signs
	Application of the framework in clinical practice	No refinements were suggested within this category. Rather, the framework was suggested to be used as a tool for reflections, support in writing care plans and support and guide change



development and implementation of person-centred evidence-based fundamental care (International Learning Collaborative, 2022). It has been highlighted that to succeed with implementation of knowledge into practice, the individuals play a key role and practitioners' expertise and experiences are crucial for application (Harvey and Kitson, 2016). This also supports the rationale for this study and why we aimed to move from an academic view of the Fundamentals of Care framework to a more bedside nurse perspective of the framework. This was regarded as a natural step to gain insight into the potential application of the framework in bedside nurses' practice. A narrative review of synergies between the framework and seminal nursing theories showed that ease of use has often been overlooked within most nursing theories (Mudd et al., 2020). Hence, the Fundamentals of Care framework seems to address nursing care in a way that nurses easily can identify its applicability in their daily work. The findings show that the use of the framework has potential to positively impact bridging the theory–practice gap and support nurses to deliver nursing care in an integrated manner. Similar findings have been seen in previous research (Muntlin and Jangland, 2022). However, research needs to continue to show the relevance of the framework to clinical practice.

Although bedside nurses described that the framework reflected nursing practice, they used other words to describe their nursing practice. The framework aims to be used in different international settings and the exact wording might be considered in further development of the framework to enhance its application in clinical practice (Muntlin and Jangland, 2022). Muntlin and Jangland (2022) stress that translation to the country's own language is necessary to gain fully acceptance and application in clinical practice. However, our findings also mirror how nurses are not used to articulate what nursing care is about. Jackson et al. (2021) addressed that key elements of nursing might not be correctly understood by policy makers and the public, and that there is a need to articulate nurses' work more clearly. Kitson (2018) states that the Fundamentals of Care framework can be seen as a point-of-care nursing theory with the potential to explain and describe the elements of nursing and inform nurses in daily practice, which is also confirmed in this study. A common language can in turn generate a consensus and give words to the registered nurse's field of expertise.

Findings showed that the bedside nurses, with varying levels of pre-understanding about the framework, identified its use in ensuring holistic care in several ways. In particular, the bedside nurses found it beneficial that the framework includes the context of care and they discussed the importance of its impact on nursing care and the value of that integrated focus. However, they found elements within the policy level as rather abstract. Similar to the review by Hajizadeh et al. (2021), challenges for nurses' participation in health policy-making processes were identified, such as nurses not being involved in health policy

processes, lack of communication from top-down and lack of skills and knowledge around policy-making processes. However, changes in healthcare often influence bedside nurses' role and work tasks, and therefore all levels of nurses, including bedside nurses, should be involved in the policy-making processes. The Fundamentals of Care framework could be supportive in obtaining this goal.

The bedside nurses from the three countries emphasised the importance of addressing the patient's psychosocial needs, although these needs were seen as more difficult to meet. Psychosocial care is a well-known category of missed nursing care (Chaboyer et al., 2021) and participating bedside nurses identified that the framework could be used as a tool to verify that holistic and integrated care is provided. This finding is important to further develop and test in clinical practice. The bedside nurses stated that the relationship matters although establishing a relationship could be a challenge depending on, for example, the situation and care area. Similar statements could be found in the editorial by Kitson et al. (2021), who addressed that establishing relationships and being present are conditional to anticipate the patient's holistic needs.

Our findings illustrated that the framework has value for bedside nurses' professional leadership as well as for nursing managers. The framework can be used to make nurses more aware that there is a need for preconditions to be addressed (the outer circle) in order to provide person-centred fundamental care. When nurses focus on integration of the different elements and the impact of the context, they can take the lead in fundamental care, embracing all the important aspects of nursing care and what is required to provide holistic patient care. This renewed focus on, and appreciation of, fundamental care within nursing is crucial to positively influence the use of nurse-sensitive patient outcomes and patient satisfaction in clinical practice, and, subsequently, for diminishing healthcare costs (Burston et al., 2014). Nurses can positively contribute to these nurse-sensitive patient outcomes because they are in a unique position of 24/7 patient contact in hospitals, with access to extensive data (Burston et al., 2014). However, further work is needed to develop nurse-sensitive outcomes that are linked to the framework and actually evaluating nursing practice, not care in general (Muntlin Athlin, 2018).

4.1. Implications

Bedside nurses in the three countries found that the definition and the framework were easy to understand. They also provided a number of suggestions to make the framework more applicable in clinical practice (Table 2). Overall, the definition of fundamental care was expressed as representing the core of nursing care. However, the suggestion for refinement addressed a more professional view of registered nurses' work

rather than valuing a 'positive' nurse–patient relationship. By using words such as professional or trusting emphasises the competence and professionalism needed to provide fundamental care.

The bedside nurses highlighted the lack of concepts like interprofessional teamwork and person-centred care in the framework, which are central to many health professionals and care contexts. Within the dimension Integration of Care, the element 'Helping patients to stay calm' was identified by bedside nurses to be patronising. The authors suggest to revise it into 'Stay with and helping the patient to regain control' to more address a person-centred perspective and the relational action provided.

The term 'person-centred care' is often used in the fundamental care literature, but is missing in the definition and needs to be added to be consistent with the literature around the framework. This has also been highlighted in previous work around the framework (Feo et al., 2018). In line with findings from the Delphi-study by Feo et al. (2018), suggestions for additional elements were brought up in the present study. Based on this, we recommend a new consensus discussion about potential additional elements and a revision of the definition.

The suggested refinements indicated by bedside nurses may support further use of the framework in daily practice. A number of clinical projects, based on the Fundamentals of Care framework, are underway in Sweden, the Netherlands and Denmark. These projects cover for example, nursing rounds focusing on the patient's fundamental care needs, Gemba Walks where the nurse managers observe the actual clinical practice and reflective sessions with registered nurses. In addition, implementation of the framework within nursing programmes (undergraduate and post-graduate levels) facilitates future bedside nurses' knowledge and competence around fundamental care.

The findings on leadership as a prerequisite for provision of nursing care confirm original themes within the framework and the statement that it is time to reclaim and refine the fundamentals of care (Kitson et al., 2013). Fundamental care has also been stated as a wicked problem (Kitson, 2021), highlighting that new ways and ideas need to be addressed to find common solutions to ensure high quality fundamental care. To be successful with application in clinical practice, leaders are needed who take responsibility for nursing issues and encouraging priority of nursing care. Also, registered nurses who use a model (e.g. the framework) for their job support quality and equality in the healthcare.

4.2. Strengths and limitations

This study has strengths and limitations. The decision to involve these three countries was based on the countries' healthcare systems and nursing education similarities and previous collaboration regarding the Fundamentals of Care framework. However, as we do know that there are knowledge gaps around how to deliver person-centred care (Santana et al., 2018), our findings should be disseminated to countries with different healthcare systems and nursing education to discuss the framework's applicability further.

A strength with the present study is that all included nurses were bedside nurses with a variety of experience in daily practice and from several wards and hospitals in each country supporting transferability of the findings. However, not all in-hospital practice areas were represented, which may impact the application in practice and limits the perspectives of the framework. Comparisons with different contexts might be needed to consider further transferability.

Focus group interviews enable broad discussions from different perspectives, but the method could also restrict the participants' possibility to speak up and join in the debate. To manage this, the focus group interviews were moderated by one of the team members with previous experience of running such interviews. Another limitation is that the Fundamentals of Care framework and the definition are in English, and none of the participants have English as their native language.

This could have affected the bedside nurses' discussions. However, the conversations were in the country's own language to facilitate the understanding of the participants' perspectives, and the bedside nurses indicated their understanding of the words.

The collaboration across three countries involved specific and broad expertise and knowledge within the area, which enhanced the possibilities to gain trustworthiness (Lincoln and Guba, 1985). The whole research process has been transparent across the three countries' teams and all authors have participated in the data collection and read the transcripts to ensure confirmability and credibility. The authors' preunderstanding of the Fundamentals of Care framework and experiences of qualitative study design strengthen the dependability, however, this could also affect the interpretation of the findings in a negative way (Patton, 2015).

5. Conclusions

The Fundamentals of Care framework is perceived by bedside nurses across three countries as a modern framework that describes the core of nursing and is helpful in articulating nursing practice. The framework is perceived as having clinical relevance and provides bedside nurses with a common language to articulate the complexity of nursing practice. It is crucial for bedside nurses both in daily practice and in leadership roles to be able to speak up for the need to integrate all dimensions of care to achieve person-centred fundamental care. This work suggests minor refinements of wordings used in the framework by adjusting to the language used in daily nursing practice. Bedside nurses' perspectives of fundamental care highlight the need for nurses from other parts of the world to be involved in conversations around fundamental care, to further develop and implement the framework into nursing practice.

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.ijnurstu.2023.104526>.

Funding

No external funding.

CRediT authorship contribution statement

Åsa Muntlin: Conceptualization, Data curation, Formal analysis, Methodology, Project administration, Visualization, Writing – original draft, Writing – review & editing. **Eva Jangland:** Conceptualization, Formal analysis, Methodology, Writing – original draft, Writing – review & editing. **Brit Laugesen:** Formal analysis, Methodology, Writing – review & editing, Conceptualization. **Siri Lygum Voldbjerg:** Formal analysis, Methodology, Writing – review & editing, Conceptualization. **Lena Gunningberg:** Conceptualization, Formal analysis, Methodology, Writing – review & editing. **Kathleen Greenway:** Conceptualization, Writing – review & editing. **Clair Merriman:** Conceptualization, Writing – review & editing. **Mette Grønkvær:** Conceptualization, Formal analysis, Writing – review & editing. **Maud Heinen:** Conceptualization, Formal analysis, Writing – review & editing. **Getty Huisman-de Waal:** Conceptualization, Formal analysis, Methodology, Writing – original draft, Writing – review & editing.

Data availability

Data is obtained in native languages, respectively. No permissions to share data have been obtained.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgments

The authors thank all bedside nurses who kindly shared their thoughts and reflections by engaging in the focus group interviews.

References

- Aiken, L.H., Sloane, D.M., Bruyneel, L., Van den Heede, K., Griffiths, P., Busse, R., Diomidous, M., Kinnunen, J., Kozka, M., Lesaffre, E., McHugh, M.D., Moreno-Casbas, M.T., Rafferty, A.M., Schwendimann, R., Scott, P.A., Tishelman, C., van Achterberg, T., Sermeus, W., consortium, R.C., 2014. Nurse staffing and education and hospital mortality in nine European countries: a retrospective observational study. *Lancet* 383 (9931), 1824–1830. [https://doi.org/10.1016/s0140-6736\(13\)62631-8](https://doi.org/10.1016/s0140-6736(13)62631-8).
- Ausserhofer, D., Zander, B., Busse, R., Schubert, M., De Geest, S., Rafferty, A.M., Ball, J., Scott, A., Kinnunen, J., Heinen, M., Sjetne, I.S., Moreno-Casbas, T., Kozka, M., Lindqvist, R., Diomidous, M., Bruyneel, L., Sermeus, W., Aiken, L.H., Schwendimann, R., consortium, R.C., 2014. Prevalence, patterns and predictors of nursing care left undone in European hospitals: results from the multicountry cross-sectional RN4CAST study. *BMJ Qual. Saf.* 23 (2), 126–135. <https://doi.org/10.1136/bmjqs-2013-002318>.
- Bagnasco, A., Dasso, N., Rossi, S., Galanti, C., Varone, G., Catania, G., Zanini, M., Aleo, G., Watson, R., Hayter, M., Sasso, L., 2020. Unmet nursing care needs on medical and surgical wards: a scoping review of patients' perspectives. *J. Clin. Nurs.* 29 (3–4), 347–369. <https://doi.org/10.1111/jocn.15089>.
- Buchan, J., Catton, H., Shaffer, F., 2022. Sustain and retain in 2022 and beyond. ICN - CGFNS International Centre on Nurse Migration <https://www.icn.ch/system/files/2022-01/Sustain%20and%20Retain%20in%202022%20and%20Beyond-%20The%20Global%20Nursing%20Workforce%20and%20the%20COVID-19%20pandemic.pdf>. (Accessed 8 July 2022).
- Burston, S., Chaboyer, W., Gillespie, B., 2014. Nurse-sensitive indicators suitable to reflect nursing care quality: a review and discussion of issues. *J. Clin. Nurs.* 23 (13–14), 1785–1795. <https://doi.org/10.1111/jocn.12337>.
- Chaboyer, W., Harbeck, E., Lee, B.O., Grealish, L., 2021. Missed nursing care: an overview of reviews. *Kaohsiung J. Med. Sci.* 37 (2), 82–91. <https://doi.org/10.1002/kjm2.12308>.
- Darzi, A., 2018. The Lord Darzi Review of Health and Care: interim report. IPPR <http://www.ippr.org/research/publications/darzi-review-interim-report>. (Accessed 8 July 2022).
- Ekman, I., Ebrahimi, Z., Olaya Contreras, P., 2021. Person-centred care: looking back, looking forward. *Eur. J. Cardiovasc. Nurs.* 20 (2), 93–95. <https://doi.org/10.1093/eurjcn/zvaa025>.
- Elo, S., Kyngas, H., 2008. The qualitative content analysis process. *J. Adv. Nurs.* 62, 107–115. <https://doi.org/10.1111/j.1365-2648.2007.04569.x>.
- Feo, R., Conroy, T., Jangland, E., Muntlin Athlin, Å., Brovall, M., Parr, J., Blomberg, K., Kitson, A., 2018. Towards a standardised definition for fundamental care: a modified Delphi study. *J. Clin. Nurs.* 27 (11–12), 2285–2299. <https://doi.org/10.1111/jocn.14247>.
- Griffiths, P., Dall'Ora, C., Simon, M., Ball, J., Lindqvist, R., Rafferty, A.M., Schoonhoven, L., Tishelman, C., Aiken, L.H., RN4CAST Consortium, 2014. Nurses' shift length and overtime working in 12 European countries: the association with perceived quality of care and patient safety. *Med. Care* 52 (11), 975–981. <https://doi.org/10.1097/MLR.000000000000233>.
- Hajizadeh, A., Zamanzadeh, V., Kakemam, E., Bahreini, R., Khodayari-Zarnaq, R., 2021. Factors influencing nurses participation in the health policy-making process: a systematic review. *BMC Nurs.* 20 (1), 128. <https://doi.org/10.1186/s12912-021-00648-6>.
- Harvey, G., Kitson, A., 2016. PARIHS revisited: from heuristic to integrated framework for the successful implementation of knowledge into practice. *Implement. Sci.* 10 (11), 33. <https://doi.org/10.1186/s13012-016-0398-2>.
- International Learning Collaborative, 2022. The global voice for fundamental care. <https://ilccare.org>. (Accessed 8 July 2022).
- Jackson, J., Anderson, J.E., Maben, J., 2021. What is nursing work? A meta-narrative review and integrated framework. *Int. J. Nurs. Stud.* 122, 103944. <https://doi.org/10.1016/j.ijnurstu.2021.103944>.
- Jangland, E., Kitson, A., Muntlin Athlin, Å., 2016. Patients with acute abdominal pain describe their experiences of fundamental care across the acute care episode: a multi-stage qualitative case study. *J. Adv. Nurs.* 72 (4), 791–801. <https://doi.org/10.1111/jan.12880>.
- Jangland, E., Teodorsson, T., Molander, K., Muntlin Athlin, Å., 2018. Inadequate environment, resources and values lead to missed nursing care: a focused ethnographic study on the surgical ward using the Fundamentals of Care framework. *J. Clin. Nurs.* 27 (11–12), 2311–2321. <https://doi.org/10.1111/jocn.14095>.
- Kitson, A.L., 2018. The Fundamentals of Care framework as a point-of-care nursing theory. *Nurs. Res.* 67 (2), 99–107. <https://doi.org/10.1097/NNR.0000000000000271>.
- Kitson, A.L., 2021. Professor Alison Kitson, ILC Founder talks about: Fundamental Care is a 'wicked problem'. <https://ilccare.org/foc-wicked-problem/>. (Accessed 8 July 2022).
- Kitson, A., Conroy, T., Wengstrom, Y., Profetto-McGrath, J., Robertson-Malt, S., 2010. Scholarly paper: defining the fundamentals of care. *Int. J. Nurs. Pract.* 16 (4), 423–434. <https://doi.org/10.1111/j.1440-172X.2010.01861.x>.
- Kitson, A.L., Dow, C., Calabrese, J.D., Locock, L., Muntlin Athlin, Å., 2013. Stroke survivors' experiences of the fundamentals of care: a qualitative analysis. *Int. J. Nurs. Stud.* 50 (3), 392–403. <https://doi.org/10.1016/j.ijnurstu.2012.09.017>.
- Kitson, A.L., Muntlin Athlin, Å., Conroy, T., 2014. Anything but basic: nursing's challenge in meeting patients' fundamental care needs. *J. Nurs. Scholarsh.* 46 (5), 331–339. <https://doi.org/10.1111/jnu.12081>.
- Kitson, A., Huisman-de Waal, G., Muntlin, Å., 2021. Lessons from COVID. *J. Adv. Nurs.* 77 (7), e7–e9. <https://doi.org/10.1111/jan.14844>.
- Leineweber, C., Singh Chungkham, H., Lindqvist, R., Westerlund, H., Runesdotter, S., Smeds Alenius, L., Tishelman, C., RN4CAST Consortium, 2016. Nurses' practice environment and satisfaction with schedule flexibility is related to intention to leave due to dissatisfaction: a multi-country, multilevel study. *Int. J. Nurs. Stud.* 58, 47–58. <https://doi.org/10.1016/j.ijnurstu.2016.02.003>.
- Lincoln, Y., Guba, E.G., 1985. *Naturalistic Inquiry*. Sage, Newbury Park, CA.
- Morgan, D.L., 1997. *Focus Groups as Qualitative Research*. 2 ed. SAGE Publications, Thousand Oaks.
- Mudd, A., Feo, R., Conroy, T., Kitson, A., 2020. Where and how does fundamental care fit within seminal nursing theories: a narrative review and synthesis of key nursing concepts. *J. Clin. Nurs.* 29 (19–20), 3652–3666. <https://doi.org/10.1111/jocn.15420>.
- Muntlin Athlin, Å., 2018. Methods, metrics and research gaps around minimum data sets for nursing practice and fundamental care: a scoping literature review. *J. Clin. Nurs.* 27 (11–12), 2230–2247. <https://doi.org/10.1111/jocn.14155> (peer-reviewed).
- Muntlin, Å., Jangland, E., 2022. Translation and cultural adaptation of the fundamentals of care framework: are we there yet? *J. Adv. Nurs.* <https://doi.org/10.1111/jan.15383>.
- Numminen, O., Leino-Kilpi, H., Isoaho, H., Meretoja, R., 2017. Development of nurses' professional competence early in their career: a longitudinal study. *J. Contin. Educ. Nurs.* 48 (1), 29–39. <https://doi.org/10.3928/00220124-20170110-08>.
- Patton, M.Q., 2015. *Qualitative Research & Evaluation Methods*. 4th ed. Sage, England.
- Santana, M.J., Manalili, K., Jolley, R.J., Zelinsky, S., Quan, H., Lu, M., 2018. How to practice person-centred care: a conceptual framework. *Health Expect.* 21 (2), 429–440. <https://doi.org/10.1111/hex.12640>.
- Tausch, A.P., Menold, N., 2016. Methodological aspects of focus groups in health research: results of qualitative interviews with focus group moderators. *Glob. Qual. Nurs. Res.* 14 (3), 2333393616630466. <https://doi.org/10.1177/2333393616630466>.
- World Medical Association, 2013. World Medical Association Declaration of Helsinki: ethical principles for medical research involving human subjects. *JAMA* 310 (20), 2191–2194. <https://doi.org/10.1001/jama.2013.281053>.