How do neonatal nurses involve parents in decision-making regarding kangaroo care in neonatal intensive care: a mixed methods study.

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Status: final version

Date: July 3th, 2015

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Journal: Acta Paediatrica

Reference style: Vancouver, maximum number of words according to ADC:3250

Number of words: 3757

Reporting criteria: Consolidated criteria for reporting qualitative studies (COREQ)

Number of words English summary: 300

Abstract

Background Being confronted with a premature birth and a neonatal intensive care unit (NICU) can be distressing for parents and influences their sense of parental identity negatively. Involving parents in decisions can strengthen parents' sense of control and empowerment. One way to participate in care is kangaroo care (KC), which has shown positive results, for both parents and infants. NICU-nurses play a crucial role in stimulating the performance of KC. However, little is known about how NICU-nurses involve parents in decisions regarding KC.

Research question How do neonatal nurses involve parents in decision-making regarding kangaroo care in neonatal intensive care units?

Method To gain insight in how NICU-nurses involve parents in this decision-making process, a mixed-methods explanatory sequential study was used. A quantitative phase using a questionnaire was followed by a qualitative phase, consisting of semi-structured interviews.

Results NICU-nurses are not fully aware of the meaning of shared decision-making regarding the principles of family centred care. Once they do, they feel reluctant to work according to these principles, but they do see possibilities of involving parents in decisions regarding KC later during admission. Building a good relationship with parents, involving them in the care and stability of the infant are preconditions for shared decision-making. There is not always consensus about when to apply KC and different forms of advice are given to parents. NICU-nurses want to be in control in terms of making the final decision because of their experience and knowledge, and because they feel responsible for their professional conduct.

Conclusion and implications of key findings Although sharing decisions with parents is one of the principles of family centred care, NICU-nurses are ambivalent about doing this. This study indicates an improvement in knowledge of shared decision-making, the usage of a model and imbedding shared decision-making in hospital policy.

Key words: *kangaroo care, neonatal intensive care unit, NICU-nurses, parental involvement, shared decision-making.*

Every year 15 million infants worldwide are born prematurely. A premature infant is defined as a baby born alive before the 37th week of pregnancy[1]. Because premature infants have underdeveloped organs and are more at risk of complications, they are usually admitted to a neonatal intensive care unit (NICU). This is a fully equipped intensive care unit with specialised technology and trained healthcare professionals who specialise in the care of ill or premature newborn infants[2-4].

Being confronted with a premature birth and a NICU admission can feel threatening, distressing and traumatic for parents[5-8]. They can feel an inability to help, hold, care for the infant and protect it from pain[5,9]. The technology of the NICU environment makes parents feel like outsiders in the care of their infants and this is often experienced as shocking [10,11]. This can lead to psychiatric disorders and can disrupt attachment and bonding between parents and their child. It also disturbs parents in their process of becoming a parent and taking up their parental roles and responsibilities[2,12,13].

According to the principles of family-centred care (FCC), which has been introduced at all NICUs worldwide since 1993[14], parents should be given the opportunity to participate in important decisions being made about their child at a NICU[15,16]. Creating a partnership with parents can help promote parental identity and give parents a sense of control in an overwhelming and frightening environment[17,18]. The sooner parents have the opportunity to see, touch, hold their baby and provide kangaroo care, the sooner they will see their infant as their own[19] and this stimulates the bonding between parent and child[20]. Nevertheless, research shows that NICU parents often feel dissatisfied with the opportunities provided for parental involvement, as well as with the availability of information[15,21-23].

Several studies of the needs of NICU parents show that parents want to: a) participate in decision-making, b) be near to the infant and have physical contact, and c) want support, information and guidance from the NICU nurse[5,10,24-26]. One way to give parents the opportunity to participate in the care of their infant is kangaroo care (KC). This is an evidence-based intervention, developed to give parents an opportunity to participate in the care of their infant and stimulate the attachment process. It is defined as ‘early prolonged and continuous skin-to-skin contact between a parent and her newborn low-birth-weight infant’[27]. According to European guidelines, KC should be implemented as soon as possible after delivery or upon arrival at the neonatal unit[27]. Research shows that KC yields positive results, physically and mentally, for both parents and infants[28].

NICU-nurses play a crucial role in stimulating the performance of KC[14,29]. They can strengthen the confidence and self-esteem of parents by teaching them how to care for their child and by involving them in decision-making[30]. Shared decision-making is defined as

active participation and agreement between patient and professional in decision-making processes, in which all the stakeholders contribute preferences, values and facts to the decisional process and deliberate together to reach a joint decision[31].

Little research has been done on the motivational reasons for NICU-nurses to involve the parents in decisions regarding KC. *Monterosso et al.* investigated the role of NICU-nurses in ethical decision-making in general at an NICU and concluded that NICU-nurses see parents as advocates for their infants. However, because of the parents' limited knowledge, this role is temporarily taken over by NICU-nurses[19]. This study was limited, however, because it was conducted at one NICU in Australia and it did not focus on KC specifically. *Kymre et al.* investigated the developmental needs of prematures together with parents' readiness for KC. They concluded that NICU-nurses balance the developmental needs of the prematures with the parents' readiness for KC[32].
KC and parental involvement are extremely important to NICU parents because they can help to (re)construct their role as parents[14,33]. Therefore it is necessary that nurses involve parents in decision-making regarding KC. This study focuses on the following research question(s):

1. How do neonatal nurses involve parents in decision-making regarding kangaroo care in neonatal intensive care units?
2. At what moments in kangaroo care could parents be involved in decisions?
3. What are the preconditions for involving parents in decisions regarding kangaroo care?

This study aims to gain insight into how neonatal intensive care nurses involve parents in decision-making regarding kangaroo care.

Method

A mixed-methods explanatory sequential study was conducted, in which a quantitative phase was followed by a qualitative phase. Hereby quantitative results – obtained by using a questionnaire – were explained by using a qualitative strand, that is, by conducting semi-structured interviews[34]. This design was chosen because it assesses trends and relationships within quantitative data and explains the mechanism or reasons behind the results by using qualitative methods[35]. The emphasis of this research was on the qualitative part, because this suits the aim of the study: focusing on exploring behaviour, feelings, experiences and perspectives.

Population

The target population consisted of NICU-nurses. The sample for this mono-centered study comprised Dutch registered neonatal nurses working at a neonatal intensive care unit (NICU) of an academic hospital in the Netherlands. NICU-nurses were eligible if they met the following inclusion criteria: familiar with protocols regarding KC; spoke and wrote Dutch; were Registered Nurses (RN) and graduated in Intensive Care Neonatology (ICN)-nurse; were available between December 2014 and July 2015. Nursing students or trainees were excluded because of their lack of experience. Data was collected and analysed from December 2014 to July 2015.

Sampling

Nested sampling was used for this study: participants in the qualitative strand were intended to be a subset of the participants in the quantitative strand[36]. This sampling method fits an explanatory design because it offers detail and elaboration about phenomena and relationships captured quantitatively[37]. The sampling process of the quantitative strand contains a convenience sample consisting of all included NICU-nurses working at the hospital at which this study took place. For the qualitative part, participants were invited for an interview and recruitment stopped when data saturation was achieved, which means data from the latest interview could be covered within existing codes and no new codes emerge[38].

Data collection & procedure

Data was collected in two ways:

1) Quantitative: NICU-nurses were asked to fill in a questionnaire developed by the researcher in collaboration with the principal investigator (PI) and based on literature[16,31,39-41]. It focussed on three subjects regarding decision-making in kangaroo care: policy, preconditions and decision-making itself. It was subsequently submitted for peer review to an expert to increase content validity and differences were discussed until consensus was reached. The questionnaire consisted of 15 questions, and had nominal, dichotomous and

categorical answer scales and four open questions. It was sent electronically and on paper to all included NICU-nurses. The questionnaires were distributed in December 2014 and a reminder was sent by e-mail after two weeks. All the participants were invited to an interview. 2) Qualitative: NICU-nurses were interviewed by the researcher (MV), using an interview guide, based on answers giving by respondents from the questionnaire. Topics abstracted from the questionnaire focussed at defining shared decision-making, hospital policy, agreement within the nurses team, involving parents in decision making, preconditions and the opinion if parents can decide for themselves when and whether to apply KC. The interviews were audio taped and transcribed verbatim after each interview.

To enhance reliability, a pilot interview was held with the PI to determine whether all the relevant topics were covered and to refine interview skills. Feedback was processed about the process and the content. To enhance the quality of the interviews, the researcher attended a workshop on interviewing at Utrecht University conducted by Ms. F.de Boer (PhD), who specialises in qualitative research and interview techniques. Field notes and memos were written during the study to remind the researcher of events, actions and interactions to trigger the thinking process[38,42]. Furthermore, an audit trail was kept in which decisions made before and during the research and the research process were described. In this way, the validity of the research can be judged by others[43]. To verify the research findings, member checks were used, in which the findings from the interviews were presented to the participants[44].

Data analysis

Analysis of the quantitative data was done by descriptive statistics, using IBM SPSS statistics 22. For categorical (nominal) variables, percentages were determined. Summary statistics were used for discrete variables. Open answers were arranged and structured and themes for the interviews were identified in close collaboration with the PI and differences were discussed until consensus was reached.

The qualitative data was analysed according *the spiral of analysis*[38]. This analysis follows a stepwise analytic spiral, consisting of three sequential main parts: open, axial and selective coding. Open coding ended when data saturation was achieved. This approach has been chosen to gain maximal insight in experiences of respondents, without wanting to develop new theory. The process of interviewing and analysing data went back and forth, and a constant comparison method was used to compare all data to both other data and emerging categories(37). NVivo 10 for Windows was used to support this analysis.

Ethical issues

Ethical approval is obtained by the local medical ethical commission of the hospital at which the study took place and conducted for educational reasons. The researcher had completed Good Clinical Practice training. All included NICU-nurses received an information letter explaining the nature of the study, the purpose for which the data would be used, and the potential risks and benefits of participation and the option to withdraw from the study at any time. Attached to this information letter was a letter of informed consent: signed informed consent was a condition for nurses to participate in this research.

Results

Participants

A total of 54 questionnaires was distributed, of which 18 were returned (response rate: 33,3%). The sample consisted of female NICU-nurses, with a mean age of 47.4 years, (SD ± 9.33) and a mean working experience history of 18.3 years (SD ± 6.77). Participants characteristics can be found in Table 1.Twelve (n=12) NICU-nurses wanted to be interviewed. Two of them were excluded because they were part of the research team and one interview could not be planned because it was impossible to find a suitable date and time due to irregular shifts. Nine NICU-nurses (n=9) were interviewed. The reasons given for not wanting to be interviewed were a lack of time because of high work pressure.
NICU-nurses that were interviewed had lower educational levels than nurses that filled in the questionnaires. Both groups represented elderly nurses with a lot of working experience; the mean age and working experience in the interview group was slightly lower.

Flowchart diagram sample

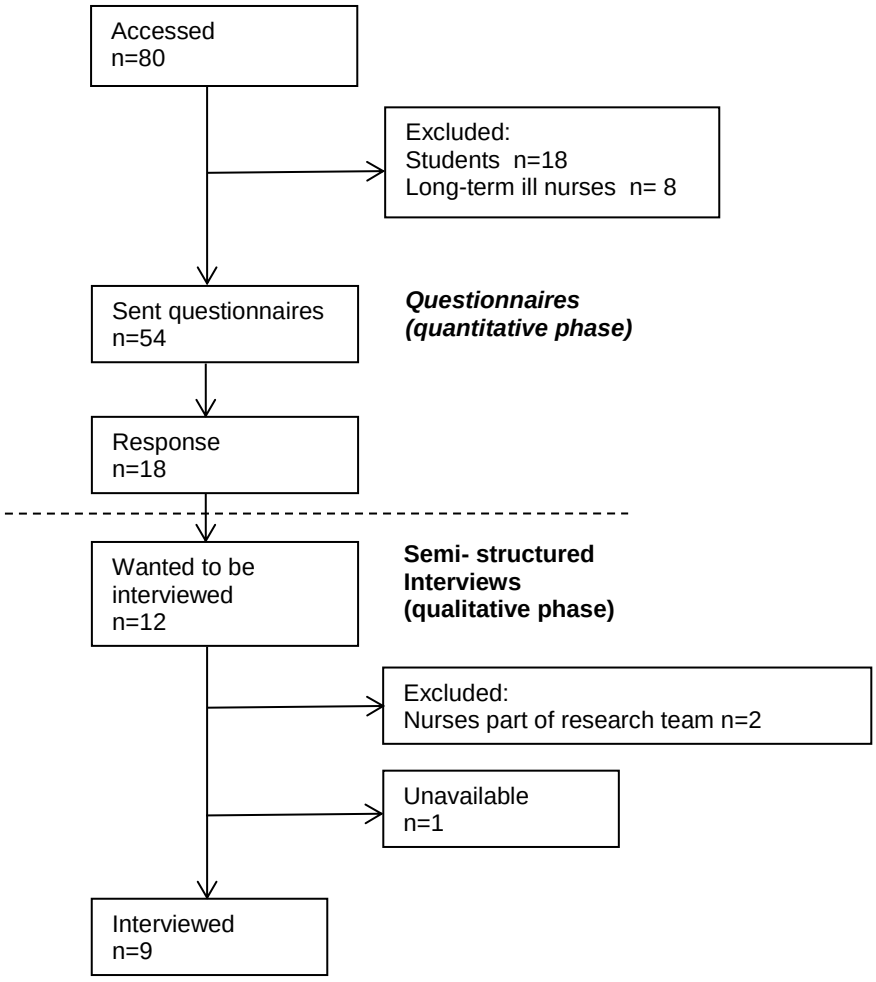

Table 1. Baseline characteristics of study participants (N=18)

	All respondents (questionnaire) (N=18)	Respondents semi-structured interviews (R=9)
Age in years (mean (SD))	47.4 ± 9.33	42.78 ± 10.01
Female gender (n(%))	18 (100)	9 (100)
Working experience in years (mean (SD))	18.3 ± 6.77	15.4 ± 6.37
ICN-graduate in years (mean(SD))	19.75 ± 7.55	16.11 ± 7.62
Unknown (n)	*2*	
Senior NICU-nurses (n (%))	3 (16.7)	2 (22.2)
Educational level (n(%))		
PhD	2 (11.1)	-
MSc	1 (5.6)	-
RN + bachelor	7 (38.9)	3 (33.3)
RN	6 (33.3)	6 (66.7)
Unknown	2 (11.1)	-

Findings questionnaires

Hospital policy regarding KC is unclear to 61,1% of the NICU-nurses. And almost tree-quarter (72,3%) indicated, there was no agreement within their nurses team about applying KC. Almost 28 percent of the NICU-nurses informs parents about applying KC at the moment their child is admitted and the same percentage nurses will do it during admission but also let it depend on the condition of the child. All participants indicated respiratory, circular or vital instability to be a contra-indication to apply KC. More than one-third (33.3%) of the nurses indicated high work pressure can be a reason not to apply KC.

All respondents indicated that NICU-nurses should decide when parents start KC with their infants. The majority of respondents thinks parents must be involved in the decision of nurses to apply KC (72,2%) and in the frequency (83,3%). More than half of the respondents (55,6%) think parents cannot decide for themselves if KC can be applied, even if they are well informed. Two NICU-nurses (11,1%) indicated parents can decide for themselves in collaboration with a nurse.

Table 2. Results questionnaire (N=18)

Policy KC	**N (%)**
Clear hospital policy:	
Yes	7 (38.9)
No	*11 (61.1)*
Consensus apply KC within team:	
Yes	5 (27.8)
No	13 (72.2)
Moment informing parents about KC:	
Depends on condition child	4 (22.2)
Depends on condition child & parents	5 (27.8)
During admission	2 (11.1)
During admission & depends on condition child	5 (27.8)
During admission & depends on condition child & parents	2 (11.1)
Preconditions KC	
Clinical conditions child	
According to protocol	1 (5.6)
Vitals child stable	16 (88.8)
No KC during cooling therapy or while respired	1 (5.6)
High work pressure of influence?	
Yes	6 (33.3)
No	12 (66.7)
Decision-making KC	
Who decides when to start KC?	
Nurse:	7 (38.9)
Nurse & physician:	6 (33.3)
Nurse & parents:	4 (22.2)
Nurse, physician & parents:	1 (5.6)
Nurse consults decision to parents?	
Yes:	15 (83.3)
No:	3 (16.7)
Opinion parents factor in decision-making nurse?	
Yes:	12 (66.6)
No:	3 (16.7)
Other:	3 (16.7)
Contra-indications KC	
Instability vitals child	18 (100)
Parents should be involved in the decision	
Yes:	13 (72.2)
No:	5 (27.8)
Parents should be involved in the frequency	
Yes:	15 (83.3)
No:	3 (16.7)
Parents can decide for themselves (if well informed.)	
Yes:	6 (33.3)
No:	10 (55.6)
In collaboration with nurse:	2 (11.1)

Findings semi-structured interview

NICU-nurses were not fully aware of the meaning of shared decision-making as intended by the principles of family centred care. Their association with 'sharing decisions' is related to sharing with colleagues or sharing decision made by nurses with parents. Once they were made aware of the meaning, they were reluctant to work according the principle when an infant was first admitted. They believed parents were not up to it because they feel overwhelmed and they do not have the medical knowledge. Choices given by nurses focussed particularly on the practical aspects.

A summary of the main findings regarding how nurses involve parents in decision-making regarding KC, at what moments and under what preconditions, is listed in box 1.

1.	NICU-nurses define shared decision-making with parents as providing them with all the relevant information about KC and explaining their decision to apply KC or not to them.
2.	NICU-nurses want to be in control of the final decision regarding applying KC.
3.	NICU-nurses offer parents limited choices in that process, given them choices that are mainly about the practical aspects of KC.
4.	NICU-nurses give parents of longer term NICU infants more say in decisions regarding KC, than parents of newly admitted infants.
5.	Building a relationship with parents based on trust is a precondition for involving parents in the decision-making process regarding KC.
6.	Hospital policy regarding KC is unclear and there is no consensus about applying KC within the nurses team.

Box 1 Main themes emerged from this study

1. Definition NICU-nurses shared decision-making

One of the themes in the interview guide was defining the meaning of shared decision-making. NICU-nurses define shared decision-making as making a decision about whether or not KC can be applied, and sharing this decision with parents. This includes giving all the information their decision was based on. By doing so, NICU-nurses believe parents would have come to the same conclusions themselves. Together they would reach a shared agreement, in which both parties were satisfied. According to the majority of NICU-nurses that were interviewed, parents want to be led by nurses and believe the decisions nurses make are the right ones, based on their experience and knowledge. (Box 2)

*'Shared decision making is when parents would have made the same decision I have made, based on the information I have given them.' R02**

'Shared decision making is involving parents in your decision.'R04

'Shared decision making is talking to parents about your decision to apply KC or not.' R06

'Parents want to be guided by us because they think that because we say it, it must be right.' R02

'Parents rely on the information given by us and want to be guided in decisions we make.' R07

'Shared decision making is reaching a decision together based on my experience as a nurse and based on evidence based studies and research.' R03

'Being a NICU-nurse, you have a leading position, in which parents see you as an expert. R01

'From the beginning parents kind of have to try to be one with their infant and with us. They trust us and depend on us. R02
'Parents are allowed to be in control about a lot of things but the medical and technical part is our responsibility.' R09

Box 2 Definition shared decision-making

(*R= respondent identification code)

2. NICU-nurses want to be in control of the final decision of applying KC.

In this process, the interest of the child comes first and sometimes decisions are being made with others, such as colleagues or doctors. Nurses feel they have to have the final saying in decisions, because they have a responsibility towards their patient (the infant) and because they feel responsible for their professional conduct. (Box 3)

'Because of your clinical vision, you see things parents would not have thought of.' R02

'Parents are not totally objective about their child.' R03

'My experiences are that parents get their information from everywhere and don't realise that the situation of their child is unique.' R05

'I think parents aren't capable of deciding for themselves.' R07

'If infants are admitted for a longer time and are stable, parents can decide some things for themselves. However, I am accountable for the child, so being a nurse, my opinion counts more.' R08

'I want to be in control of the final decision because if you let parents decide and something happens to the infant, I'm accountable for the decision.' R09

Box 3 NICI-nurses want to be in control

3. NICU-nurses offer parents limited choices

Parents have limited choices in the decision process regarding KC. The choices given by nurses focus particularly on practical aspects such as when to apply KC and who will apply it (mother or father). NICU-nurses indicate that they always revaluate at the moment itself whether KC is possible, depending on the condition of the infant. All the respondents indicated that the final decision was made by the NICU-nurses. (Box 4)

'If possible, parents are leading in choosing the moment to apply KC. Of course, we (nurses) still judge whether it's really possible at that time.' R02

'We have a visitors' diary, in which parents write at what time they want to come to apply KC. For that part, they are a little bit in charge.' R03

'We adjust our working scheme to the wishes of parents and i think that is very noble of ours. For instance, if they want to come for kangaroo care at a certain time, we will make sure the baby is ready at that moment. But if that is not possible, for instance because it is too busy, than we can decide it is not possible. We are in charge and have the final saying.' R09

Box 4 NICU-nurses offer parents limited choices

4. Parents of longer admitted infants have more say

However, this can change over time. NICU-nurses believe that shared decision-making – in which parents can decide on their own whether to apply KC – could be integrated into care in the NICU, but not when the infant is just admitted, because parents are not up to it that at that moment. Parents are often overwhelmed by their experiences of prenatal birth and the admission of their child, and the mothers are often still recovering from giving birth. (Box 5)

'If your child is being admitted here, parents are busy trying to survive. Especially if they have a very sick child.' R02

'When a child is admitted with us, parents don't know what is expected of them. Especially at the beginning they need more guidance. Also because their child is usually very sick and instable at that moment.' R04

Box 5 Parents are overwhelmed

When a child is in the NICU for a longer period, parents could be given more responsibility, according to the majority of the nurses. Parents get to know their child better over time and feel more secure in recognising signs and taking care of their baby. This is a process that evolves during the infant's stay: the longer a child remains in the NICU, the more they could be involved in decisions regarding KC, with the preconditions that the infant is and that parents are capable of doing so. For instance, it is more difficult to involve parents in decisions if they have low cognitive skills or do not speak Dutch or English at all. (Box 6)

'I think parents of longer admitted children can decide for themselves whether to apply KC without consulting us, because then they are working towards independency. After a couple of weeks after admission.' R06

'If parents have learned and see and understand caring for their infant, they can decide for themselves.' R01

'After explaining a lot and teaching parents to get to know their child, they are capable of deciding for themselves whether kangaroo care can be applied.' R03

'I think parents like to be involved in the care provided to their child.' R06

Box 6 Over time parents could be involved in decision making

5. Building a relationship with parents based on trust is a precondition

NICU-nurses believe building a good relationship with parents and involving them in care is very important and a precondition for involving parents in decision-making regarding kangaroo care. In this way they are supported in their parental role, get more confidence and learn to get to know their child better in order to make better decisions. Moreover, by building this relationship, parents become used to being parents sooner and get to know their child better. (Box 7)

'I think it's important to build a relationship with parents based on trust. They depend on us.' R02'
Mutual understanding between the nurse and the parents is an important precondition to let parents decide for themselves. R04

Box 7 Building a relationship is precondition

6. Hospital policy unclear and no consensus within team

Despite the presence of a protocol about KC, the majority of NICU-nurses indicate policy to be unclear and consensus among NICU-nurses about when to apply KC is missing, especially within the group of extreme premature and/or very sick infants. Because of this, different forms of advice are giving to parents. For instance, according protocol KC cannot be applied if the infants temperature is too low. But KC can also cause the temperature to rise, so some nurses do not see a low temperature as a contra-indication but as an indication to apply KC.

Discussion

NICU-nurses are reluctant to involve parents in decision-making about applying KC with their infant at the beginning of an admission. Over time, they are willing to give parents more control and involve them more in decision making processes, under the precondition that the child is stable and the parents are capable of doing so. NICU-nurses want to be in control in making the final decision because they have a responsibility towards their patient and because they can be held responsible for their professional conduct.

No research was found on shared decision-making with regard to KC. However, shared decision-making at NICUs has been studied. Similarly to the results of this study, *Haward et al.* concluded that paternalistic behaviour (professional makes the decision for patient) remained strongly anchored at NICUs[42]. Professional caregivers consider themselves to have the best answers regarding the care of preterms, not recognising their own subjectivity. This is also culturally determined: medical paternalism is often seen in European countries, whereas in America parental autonomy is much more common[43]. *Haward et al.* also confirms the results of this study: NICU-caregivers tend to share information with parents in such a way that they are guided towards a certain treatment, thinking that is the best option. In this way, they restrict the parents' participation in decision-making, which is in contradiction to shared decision-making and family centred care[44]. However, NICU-nurses are balancing between their responsibility to their patient and involving and empowering parents[45]. They see parents as advocates of their infant, but because of their limited knowledge, NICU nurse temporarily take over this role[19]. A study of *Peterson et al.* confirms that the definition of shared decision-making with regards to family centred care (FCC) is not always clear to NICU-nurses[46]. NICU-nurses do find it important but are not fully aware of the meaning of FCC, of which shared decision-making is a part, and how to incorporate it into their daily practice. A study of shared decision-making concerning chronic conditions shows that nurses interpret shared decision-making as providing patients with information and offering them limited choices[47], similarly to this study. Furthermore, research shows NICI-nurses feel ambivalent about KC in terms of what treatment they prefer for unstable infants: KC or incubator treatment[48]. This reconciles with the results of this study, in which there is no consensus among NICU-nurses about when to apply KC.

Strengths and limitations

This study has some limitations. It is a mono-centre study performed at one NICU in the Netherlands. Precaution is needed in generalising the results to other settings, but that is not the main goal of qualitative studies: focusing on exploring behaviour, feelings, experiences and perspectives is[37]. Because little is known about the topic in this study, a mono-centre

study can be useful for a first exploration, with the possibility of expanding following studies to other NICUs. Furthermore, the response rate of the questionnaires was low, because a part of the NICU was closed to new patients during this research because of high work pressure experienced by the nurses. This could have biased the results because maximum variation might not have been achieved. Nevertheless, within the interview-sample data saturation was achieved and no new themes emerged from the last two interviews.
Also, all the respondents were female and although this might have biased the results, this seems to be a good reflection of daily nursing practice, in which almost 90% of all nurses are female[49]. No characteristics information could be gathered about non-responders, so it could be possible the responders are not a good representative of the total included group of NICU-nurses. Also, tree NICU-nurses in the group that filled in the questionnaires had a higher education level than nurses in the interview group. This also might have biased the results, although a lot of main finding from the questionnaire were also found in the interviews. Also, the questionnaire was not designed according to expert validity but only by three persons. However, designing a questionnaire was not the main goal of this research: abstracting themes for the interviews and achieving maximum variation was.
A strength of this study is that all the interviews were coded independently by two researchers and differences were discussed until consensus was reached. All respondents agreed with the findings. Moreover, recruitment went on until data saturation was achieved. Furthermore data triangulation was used (qualitative and quantitative data) and the researcher was independent and not an employee in the hospital this study tool place. Another strength is that almost all participated NICU-nurses were very experienced in applying KC and dealing with parents. And consolidated criteria for reporting qualitative research (COREQ) was used to improve the rigor, comprehensiveness and credibility of this study [50].

Implications

Although shared decision-making is part of family centred care and embedded in (Dutch) laws and healthcare professionals' policies, NICU-nurses are not fully aware of its meaning and are ambivalent in applying it. Hospitals should invest in teaching NICU-nurses and other healthcare professionals about the meaning of shared decision-making with regards to FCC and the importance of it. A shared decision model especially for neonatology[31], for instance from *D'Aloja* et al can be used. Letting parents participate in family-centred rounds can also offer parents an opportunity for information exchange and partnering in decision-making while fostering trust[17]. Furthermore, hospital protocols about KC should be re-evaluated, because of different opinions between NICU-nurses about when to apply KC. An intervention called *Close to Me,* which has been designed to educate parents and nurses about KC, might be helpful, because it empowered parents and created more consensus among nurses[39].

Conclusion

This research shows that NICU-nurses are not fully aware of the meaning of shared decision making and are reluctant to involve parents in decisions regarding kangaroo care.

Future research

More research is needed to determine how shared decision-making regarding kangaroo care can be implemented at a NICU and imbedded in the principles of family centered care. And to the implications of shared decision-making on NICU-parents and whether it enlarges empowerment, feeling of control and bonding with their infant.

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