



Emotional and Practical Support for Parents of Premature Babies

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Learning to Become a Parent in the Newborn Intensive Care Unit

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Psychosocial support for parents of extremely preterm infants in neonatal intensive care: a qualitative interview study



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Aim

This study therefore aimed to answer the following questions:

- What forms of psychosocial support do parents of extremely preterm infants need from the neonatal intensive care unit (NICU) as an organization and its staff?
- In what ways do they describe the NICU and its staff as meeting these needs or failing to meet them?

Participants

Participants were recruited among parents whose children had been born extremely prematurely and hospitalized at a neonatal intensive care unit (NICU) at a university hospital in **Sweden**. This particular unit has **22 beds and a staff of about 120**, including doctors, registered nurses and nursing assistants.

Sixteen families were contacted, and all gave their written informed consent to participation in the study.

Procedure

Sixteen open-ended interviews were conducted in a place of the participants' choice; all participants chose to be interviewed **in their homes**. At the time of the interviews, between one week and four months (median 1 month and 3 weeks) had passed since the infant's discharge from the hospital, and the infants were between 2.5 and 7 months old (median 5 months). The interviews lasted between **25 and 77 min**.

Each interview began by asking the parents **to describe their experiences of being a parent at the NICU**. Follow-up questions adapted to each participant's account were asked as appropriate, with a focus on parents' experience of their child's stay at the NICU, **emotional issues** that had arisen for them during that period, the **sources of psychosocial support** that had been available to them and **their views on its extent and quality**.

Examples of follow-up questions included:

“What helped you cope with the stresses involved in being a parent at the NICU?”;

“In what ways did the NICU staff respond to your needs as a patient's parent?”;

“What additional support would you have liked to receive?”

The interviews were audio-recorded and transcribed verbatim.

Table 1 Themes and subthemes

From: [Psychosocial support for parents of extremely preterm infants in neonatal intensive care: a qualitative interview study](#)

Theme	Subthemes
1. Emotional support	<i>Empathic treatment by staff</i>
	<i>Other parents as a unique source of support</i>
	<i>Unclear roles of the various professions</i>
2. Feeling able to trust the health care provider	
3. Support in balancing time spent with the infant and other responsibilities	
4. Privacy	

Theme: Emotional Support

Subtheme: empathic treatment by staff

Participants expressed a **need for emotional support from staff**. This support sometimes took the form of explicit consolation or conversations about how the parents were feeling, but could also be transmitted simply through an empathic tone in communication between staff and parents, or through positive attention from the staff.

The participants **described the NICU staff as generally kind and caring**, and said that staff often provided support and consolation when they saw that parents were suffering. Some participants mentioned that encouraging and hopeful comments from staff had meant a great deal to them.

“There was a nurse [who] said, ‘I’ve seen a lot of babies, I’ve worked with them for many years. Sometimes people think it isn’t worth investing that much in the baby because it won’t make it, but I know [yours] will make it and you shouldn’t be worried’. /.../ Yes, it did make me much less worried.” (Father 8).

Some participants described a need to have staff inquire directly into their emotional state. When staff showed an interest in their feelings, it made them feel that the staff cared about their needs as well as the infant's, and gave parents an opportunity of seeking emotional support.

Some participants said staff had frequently asked them how they were, whereas others said that such questions from staff were rare. Participants interpreted the absence of such questions in various ways. Some thought **the staff did not see it as part of their job to ask parents about their feelings, or that they were too busy to do so, whereas others suspected that staff avoided the subject.** In other words, participants pointed to **both personal qualities of staff and organizational issues** as reasons why they received less support than they would have liked.

“[The intensive care unit] is where you come first, and that’s where the first existential questions come /.../ In the beginning you have an awful lot of questions, a lot of thoughts and you maybe need a lot of attention as a parent. And you don’t get it, and it’s because there aren’t enough staff” (Mother 16).

Some participants had a sense that **staff had paid little attention to them or seemed to downplay their emotional struggles because their child’s medical condition was relatively unproblematic compared to that of some other patients.** They pointed out that even if their child was not in danger they were still in an emotionally difficult situation as parents and needed empathy and attention from staff.

“I was super scared /.../ and I know I asked, is [my baby] strong, or does she seem healthy, or something like that. And [a nurse] looked – and it was well meant but it came out really wrong for me, because she said, she almost just snorted at me and said ‘ah, she weighs over a kilogram’ /.../ since then I’ve understood that she was big for her [gestational age] /.../ but it’s not as though I knew that.” (Mother 3).

The participants also expressed a **need for emotional support from staff in the form of an empathic and humane style of communication**, irrespective of what the topic of conversation was. For example, **they needed medical information to be conveyed in a way that showed sensitivity to its emotional effect**. Some participants also noted how disconcerting inconsistent messages from different staff members could be for them.

“There was someone who first... a doctor, [who explained], ‘well, she [the baby] has a vessel that hasn’t closed. It usually closes up when we give this medicine /.../ It doesn’t always help but most likely it will and we won’t need to do anything invasive’. And when he presented it like this I felt pretty calm /.../ Then in the afternoon /.../ there was another doctor who explained it to [my husband] /.../ she presented it like, ‘yes, it’s a... if the vessel doesn’t close up that means heart surgery and you know, that’s really dangerous for these little ones’...it was like she emphasized all the things there were to be afraid of instead of focusing on the fact that it would probably go well /.../ I remember that was the first time I, like, broke down up there [at the NICU]” (Mother 2).

Subtheme: other parents as a unique source of support

Many participants described the **emotional and social support they received from other parents** on the unit **as valuable**, even indispensable. These participants said that other NICU parents could understand and sympathize with their thoughts and feelings in a way that was impossible for people without personal experience of having a premature baby.

“[W]hen I had her [another mother at the unit] I suddenly had someone who understood exactly how I felt /.../ you feel really alone when you give birth [to a premature baby]. Because the staff don’t understand how I am /.../ even though they tell me, ‘we understand, we understand’. No, you don’t at all, because you haven’t done the same thing as me” (Mother 9).

Subtheme: unclear roles of the various professions

The participants expressed differing views, often ambivalent ones, as to the appropriate role of the various professions connected with the NICU in providing emotional support to parents.

Usually the participants had met with **a social worker** at some point during their child's hospitalization; some perceived this as more or less obligatory. In some cases **their meetings with the social worker had mainly concerned practical matters**, such as how to apply for social insurance benefits. In other cases participants had also used these sessions to discuss their emotional situation.

Some parents had also seen **a hospital psychologist**, whereas others said they had felt no need of speaking to a psychologist, did not have time to do so or had never been offered the opportunity.

Some participants felt **the most appropriate staff member to turn to for emotional support was someone in the nursing staff with whom they had developed a relationship as a natural result of spending time at the unit.** On the other hand, some participants said they felt more comfortable talking about their personal problems with someone not involved in the care of their infant and the day-to-day routine of the NICU. Moreover, some participants were of the opinion that extended conversations about parents' emotional state should not ordinarily be the responsibility of nurses but of social workers or, if available, psychologists, because of their professional training.

Mother: *“I think it would have been better if we could talk to the [nursing] staff, because I didn’t think of things and keep the questions in mind until I met the social worker. All my questions came... they just plopped out when the nurses were there.”*

Father: *“But that also depends on what one wants to talk about. If I’m going to talk about how I’m feeling badly, I don’t want to sit there and talk to just any nurse /.../ They don’t have time and maybe they don’t want to and aren’t able to... if someone has training in talking to people it’s better to have those conversations with them.”*
(Mother and father 9)

This study showed that parents of extremely premature infants needed **various forms of emotional support** at the NICU, which could include **support from the staff caring for their child, professional psychological help or companionship with other patients' parents**. Parents also needed to be able to maintain a solid sense of trust in the NICU and its staff. Furthermore, **they expressed a need for support in balancing time spent with their infant and other responsibilities, as well as for privacy while at the NICU**. While the participants described many positive experiences of receiving psychosocial support, the study also revealed areas of dissatisfaction where parents wished that they had received more support or that the NICU had been better adapted to their needs.

Defining the roles of different professions

To make the best possible use of the NICU's resources for giving parents emotional support, it would be important **to define the roles of the various professions involved** and how they should collaborate as a team to help parents. This could also **lessen the stress on nurses** caused by uncertainty as to their role and by the sense that supporting parents is a task that competes with caring for the infant.

Well-functioning teamwork, with the **open and effective communication among team members** that it entails, takes time and planning to develop and can be sustained only if it the organization sees it as a priority and systematically allots time for it in the work schedules of staff.

Nurses need adequate working conditions to respond to parents' needs

The parents interviewed in the present study felt it was vital for them **to be able to trust** in the smooth functioning of the NICU and **for staff to communicate** with them in a comprehensible, thorough and **empathic way**.

Organizational factors making it harder for staff to meet these needs merit special consideration. Problems alluded to by parents in the present study included the **high workload and insufficient numbers of staff, staff discontinuity and consequent deficiencies in communication among staff**. These issues tended to erode parents' trust in the health care provider their child was dependent on, even while they appreciated the efforts and commitment of individual members of staff.

The needs of psychosocial support of parents of extremely preterm infants at the NICU are **complex and vary from family to family**. It should be recognized that meeting these needs is an important task that presents many challenges for the NICU and its staff. **Staff support the parents in various ways, but their time, resources and training in this area are limited.**

Under these circumstances, the NICU and its staff come short of being able to give parents all the support that they would require. **Improving the working conditions of nurses by increasing their number and their competence in addressing psychosocial aspects of neonatal care would help both nurses and families.**

Clarifying the roles of nursing staff, social workers and psychologists in supporting parents and improving teamwork among these professions would lessen the burden on nursing staff. **Listening to parents, communicating with them about their needs and informing them, preferably at the outset of their NICU stay, about the types of support available to them would be essential steps in helping them cope with the stresses of their infant's prolonged hospitalization.**



Introduction to prematurity to parents (for transition from Neonatal ICU to Home)

Maternal Health Considerations: Psychological Physiological Wellbeing - Review

Nurses' strategies to provide emotional and practical support to the mothers of preterm infants in the neonatal intensive care unit: A systematic review and meta-analysis

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This systematic review and meta-analysis aimed to synthesis and integrate current knowledge regarding **nursing strategies for the provision of emotional and practical support to the mothers of preterm infants in the NICU**. The review question was as follows:

What strategies are used by nurses to provide emotional and practical support to the mothers of preterm infants in the NICU?

The Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guideline was used to structure this systematic review and subsequent meta-analysis. The review protocol was registered with the International Prospective Register of Systematic Reviews (PROSPERO) and has the identifier CDR42020196361.

Definitions

For this review, it was felt important **to focus specifically on the support mothers receive from nurses when developing skills to care for their preterm infant.** We do not intend to negate the significance of fathers in neonatal care, and recognize the importance of involving fathers and partners in supporting and developing their own infants' skills. However, **as breastfeeding experiences are highly beneficial** for infant development, it was felt that a close inspection of the international literature targeting the mothers of infants receiving care on a neonatal unit was worthy of specific investigation.

We defined nursing strategies, which are used **to provide emotional and practical support to the mothers of preterm infants in the NICU.** Strategies which were sought included nurses directly supporting mothers implementing **skin-to-skin (or kangaroo care (KC)) approaches, attachment, feeding skills, general cares for the infants, and emotional engagement.**

Eligibility criteria

Published **quantitative studies** including observational, randomized controlled trial (RCT), and quasi-experimental studies, in peer-reviewed scientific journals that focused on strategies used by nurses supporting both the emotional and practical needs of mothers in the NICU were included.

Exclusion criteria were studies that reported on nurses who provided maternal support across the paediatric age range, that is, hospital wards, studies that gave inadequate information regarding nursing strategies for providing emotional and practical support to the mothers of preterm infants in the NICU, studies that focused solely on the fathers of preterm infants in the NICU, and studies that did not have a clear research methodology.

Search methods for the identification of relevant studies

The following online bibliographic databases, **Web of Science, PubMed (including MEDLINE), Scopus, EMBASE**, and manual searching were utilized to identify papers from **January 2010 to October 2021**.

The review authors used relevant literature and their knowledge to define the key words used, which were as follows: **(nurs* AND support AND (preterm* OR premature* OR 'low birthweight infant*') AND mother* AND (neonate OR neonatal* OR 'intensive care unit' OR 'critical care' OR NICU))**.

The keywords were applied to develop search phrases and conduct the search using the Boolean method. All databases were searched using a similar set of terms, and all papers were entered into an Endnote library, with duplicates removed using both software and manual review. In addition, grey literature search and cross-referencing of bibliographies were performed.

Study selection

Two review authors (M.M. and A.M.) performed independent investigations of relevant papers as part of the review process. Online conversations were conducted to share the search results and determine the subsequent steps of the study. During the search process the studies' titles, abstracts, and full texts were retrieved and were screened by them. When there was a disagreement regarding the articles' inclusion in the review, discussions were undertaken with a third author (M.V. or C.H.) to reach a consensus.

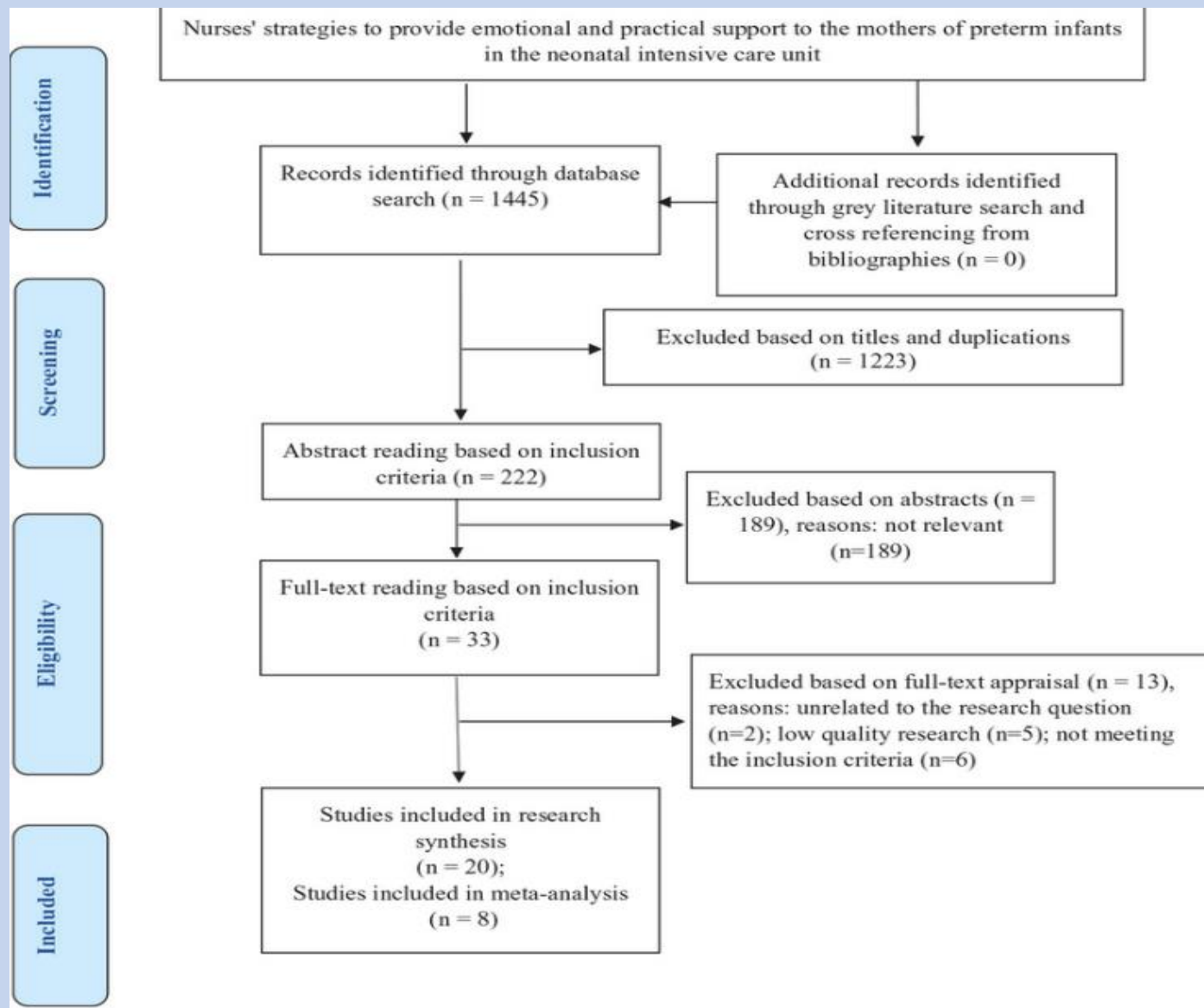
Quality appraisal and risk of bias assessment

The quality of the included studies in the review was critically evaluated independently by the two review authors (M.M. and A.M.) in view of the methodological structure and presentation of results. The checklist entitled modified consolidated standards of reporting trials (**CONSORT**) was used for the appraisal of interventional studies.

Accordingly, studies' quality was categorized into four categories as follows: (1) scores of 70% of the highest scores on the checklist were rated high quality, (2) 40%–70% as moderate quality, (3) 20%–40% as low quality, and (4) <20% as very low quality.

In addition, the quality of observational studies was appraised applying the modification of the **Newcastle–Ottawa Quality Assessment Scale for non-randomized studies (NRS)** in terms of selection, comparability, and outcomes. Studies with scores above 6 were considered as a high-quality study, 4–6 as a moderate quality study, and less than 4 as a low-quality study.

Databases from 2010 to 2020	Total in each database	Title screening	Abstract reading	Full-text reading and appraisal
Web of Science	261	60	15	8
PubMed (including MEDLINE)	696	71	12	7
Scopus	299	58	5	4
Embase	189	33	1	1
Manual search/backtracking references	–	–	–	–
Total	1445	222	33	20



Ref citations, Country	Aim	Intervention	Measurement	Design/setting	Sample	Main findings
Wataker et al., ²⁸ Norway	To describe the effects of an FC programme on maternal confidence and breastfeeding compared with mothers in a comparable NICU offering traditional care without such room facilities	Mothers in the FC group stayed in family rooms inside the NICU during their infant hospitalization	Researchers-made self-reporting questionnaire	A quasi-experimental/two level II NICUs	66 mothers: 36 in the FC group and 30 in the control group	Improving maternal confidence during the hospital stay and 3 months after discharge; increasing the level of empowerment; increasing breastfeeding
Schaffer et al., ²⁹ USA	To examine the relationship between an 8-week relaxation guided imagery intervention on sleep quality and the association between sleep quality and maternal distress	Guided imagery was provided using three 20-min tracks. Participants listened to assigned songs once or more each day at any time of the day	PSQI; CES-D; STAI; Duke University of North Carolina Functional Social Support Questionnaire	Pre-experimental study: one-group pretest-posttest design/one NICU	19 mothers	Improvement of sleep quality
Weis et al., ³⁰ Denmark	To examine the effect of the GFCC intervention, developed by the lead author, on parental stress in the NICU	The intervention group received GFCC intervention, which included helping parents control emotional stress and strengthen their ability to make decisions about caring for their infants	PSS: NICU; NPST	RCT/one level III NICU	74 parents: mothers $n = 44$; fathers $n = 30$ in the control group and 60 parents: mothers $n = 31$; fathers $n = 29$ in the intervention group	Parental stress and nurse-parent support did not significantly vary between two groups

Ref citations, Country	Aim	Intervention	Measurement	Design/setting	Sample	Main findings
					group	
Beheshtipour et al., ³¹ Iran	To explore the effect of the educational programme on the premature infants' parental stress in the NICU	The intervention consisted of four training sessions with a booklet that was prepared with the content of the topics discussed in the training sessions	PSS: NICU	RCT/one NICU	29 mothers and 22 fathers in the intervention group and 29 mothers and 20 fathers in the control group	Reducing the premature infants' maternal stress
Héon et al., ³² Canada	To examine the acceptability and feasibility of the breast milk expression education and support intervention in the mothers of preterm infants and study procedures	Breastfeeding expression training and supportive interventions were provided to the mothers of the intervention group	Breast milk expression diary; a questionnaire regarding acceptability of the educational and support components of the intervention	Pilot RCT/one NICU	14 mothers in the intervention group and 19 mothers in the control group	Improving breast milk production
Samra et al., ³³ USA	To investigate the effect of SSC on stress perception between those mothers who provided SSC to their late-preterm born infants and those mothers who provided blanket holding	Mothers in the intervention group performed SSC at least 3 times a week with the duration of 50 min per session during their stay at NICU	PSS: NICU; SCRIP	RCT/one level III NICU	11 mothers in the control group: blanket holding group and 19 mothers in the intervention group: SSC group	SSC did not have a significant impact on maternal stress

Ref citations, Country	Aim	Intervention	Measurement	Design/setting	Sample	Main findings
Cho et al., ³⁴ South Korea	To discover the effects of KC on the physiological functions of preterm infants, maternal–infant attachment, and maternal stress	KC was performed three times a week with 30-min duration a day for a total of 10 times	Maternal–infant attachment measurement tool; PSS	A quasi-experiment design; one general hospital	40 participants: 20 in the experimental group and 20 in the control group	Improving the maternal–infant attachment; reducing maternal stress
Peyrovi et al., ³⁵ Iran	To determine the effect of empowerment programme on the perceived readiness for discharge of mothers of premature infants at the time of discharge	The intervention included a three-stage empowerment programme for the mothers of preterm infants	Parent discharge readiness questionnaire	A quasi-experimental study/two level II NICUs	80 mothers: 40 in the experimental and 40 in control groups	Improving mothers' technical and emotional readiness to care for the premature infant
Sannino et al., ³⁶ Italy	To evaluate the effectiveness of NIDCAP on mother's support and infant development	Two NIDCAP-trained specialists assessed the infants' current ability to organize and adjust subsystems in a caring interaction. Care recommendations then were developed to reduce stress and individual infants' competence and development support	NPST	Non-randomized controlled study/one open space level III NICU	21 in NIDCAP group; 22 in standard care group	Improving the Nurse Parent Support; good sharing of mothers' information with NICU staff; improvement of learning to take care of their child; improving mothers' ability to cope with their child's illness and long-term hospitalization

Ref citations, Country	Aim	Intervention	Measurement	Design/setting	Sample	Main findings
Alemdar et al., ³⁷ Turkey	To explore the effect of spiritual care on the levels of stress in mothers with infants in a NICU	Spiritual care according to the interests of the mothers included reading the Quran, prayer, placed a cevşen-muska and a clipped evil-eye-talisman on the infant's incubator	PSS-NICU	RCT/one second-level NICU	62 mothers: spiritual care group (<i>n</i> = 30) and control group (<i>n</i> = 32)	Reducing maternal stress
Shimizu and Mori, ³⁸ Japan	To investigate the maternal perceptions of family-centred support with hospitalized preterm infants, and its relationship to the collaboration between mothers and nurses in perinatal centres providing standard care	N/A	Neo-MPOC-20: Neo-EPS; an author-originated mother and infant questionnaire	Cross-sectional study/31 NICU of two types of perinatal centres	98 mothers whose infants were hospitalized in the NICU	Mothers' perceptions were nearly always positive; the mean of three factors in the MPOC-20 was more than 5: consideration of parents' feelings, ability to deal with specific needs, and coordination in dealing with situations; the mean of all factors of EPS also appeared positive; path analysis revealed that the relationship between mothers and nurses was linked to three factors related to the perinatal centres' support: consideration of parents' feelings, ability to deal with specific needs, and coordination in dealing with situations that interact with the provision of parent-friendly visual information

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Ref citations, Country	Aim	Intervention	Measurement	Design/setting	Sample	Main findings
Tandberg et al., ³⁹ Norway	To compare parent–infant closeness, parents’ perceptions of nursing support, and participation in medical rounds in single-family room (SFR) and an open bay (OB) NICUs	N/A	Parents recorded physical closeness prospectively in a closeness diary; questionnaire related to the parent participation and nursing support	A prospective survey / two NICU	33 infants from 29 families in the SFR unit and 31 infants from 29 families in the OB unit	Increasing the median presence, participation in decision-making and medical rounds and emotional support in mothers in SFR unit; increasing the nursing support including guidance, information, and emotional support from mothers in the SFR unit
Buil et al., ⁴⁰ France	To assess the effects of a new skin-to-skin supported diagonal flexion (SDF) positioning on maternal stress, postpartum depression risk and skin-to-skin daily practice, in comparison with the usual KC in upright positioning, during the first weeks after very premature birth	N/A	PSS: NICU; EPDS	Case–control study/one level III NICU	34 mothers and their very preterm infants were assigned to one of the two Kangaroo Care positioning, either the upright (<i>n</i> = 17) or the SDF positioning (<i>n</i> = 17)	Reducing the risk of postpartum depression; lack of effect on maternal stress; a greater desire of mothers of the SDF group to perform KC longer
Heo and Oh, ⁴¹ South Korea	To develop a parent participation improvement programme for parents in NICUs, and to evaluate its effects on parents’ partnerships with nurses, attachment to infants, and infants’ body weight	Participation improvement programme was provided for 2 weeks	Paediatric nurse–parent partnership scale; maternal attachment inventory	Mixed-methods (RCT section was considered)/one NICU	62 premature infants: intervention group (<i>n</i> = 30) and control group (<i>n</i> = 32) and their 132 parents: 66 mothers and 66 fathers	Improving the maternal–infant attachment and the mothers’ partnership with nurses; expressing the delight and excitement of parents being with their infants; more parental confidence; active participation care; feeling

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Ref citations, Country	Aim	Intervention	Measurement	Design/setting	Sample	Main findings
Jafarzadeh et al., ⁴² Iran	To examine the effect of telenursing on attachment and stress in the mothers of premature infants	Educational content including introduction, neonatal growth and development, treatment methods, infant relaxation, breastfeeding techniques, and soothing music were provided in the form of 10 unique telenursing codes and accessible in 24 h	PSS-NICU; MPA	RCT/one NICU	50 participants: 25 in the experimental group and 25 in the control group	Improving maternal postnatal attachment; reducing maternal stress
Månsson et al., ⁴³ Sweden	To investigate the impact of an individualized neonatal parent support programme on parental stress	The support programme included parent-centred supportive communication based on their needs. Nurses provided educational content about home care, interaction with the neonate, and parental reactions	PSS-NICU	Quasi-experimental design/one NICU	Control group: 118 consisting of 60 mothers and 58 fathers; intervention group: 98 consisting of 49 mothers and 49 fathers	Reducing maternal stress
Moudi et al., ⁴⁴ Iran	To evaluate the effectiveness of a care programme on the anxiety level of mothers with LAMP infants and to determine the effectiveness of the care programme on the level of anxiety of new mothers in the presence of social support	The care programme was implemented in four training sessions; at the end of each session, CDs and pamphlets were given to mothers about the content of the session	MSPSS; STAI-S	A quasi-experimental study/ one NICU	39 and 40 mothers in the intervention and control groups, respectively	Improving the perceived social support; reducing anxiety

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Ref citations, Country	Aim	Intervention	Measurement	Design/setting	Sample	Main findings
Pouyan et al., ⁴⁵ Iran	To identify the effects of an IPT-oriented childbirth education programme on maternal role adaptation and stress amongst the first-time child bearing women that babies were in NICU	The intervention group received two 60-min training sessions based on the IPT approach and one follow-up session by telephone call after discharge	PSS: NICU	RCT/one NICU	92 mothers: IPT group (n = 44) and control group (n = 43)	Reducing maternal stress; increasing maternal role adaptation
Al-Maghaireh et al., ⁴⁶ Jordan	To examine the impact of an emotional support training programme on acute stress disorder level among the mothers of preterm infants admitted to an NICU	An emotional support programme was provided in two phases including the first phase of information and observation and the second phase of giving educational booklets to mothers	SASRQ	RCT/one level III NICU	50 mothers: 25, in the control group and 25 in the interventional group	Reducing maternal stress
Eskandari et al., ⁴⁷ Iran	To describe the range and types of neonatal nursing support, as perceived by the mothers of preterm infants, and its association with mothers' satisfaction of infant care in the NICU	N/A	Social Support Questionnaire; NIPS	A descriptive, correlational study/three NICUs	106 mothers	A moderate level of social support provided by nurses in terms of affirmational, concrete aid, affectional, and total social support; a significant relationship between nurses' social support and mothers' satisfaction with preterm infant care received in the NICUs

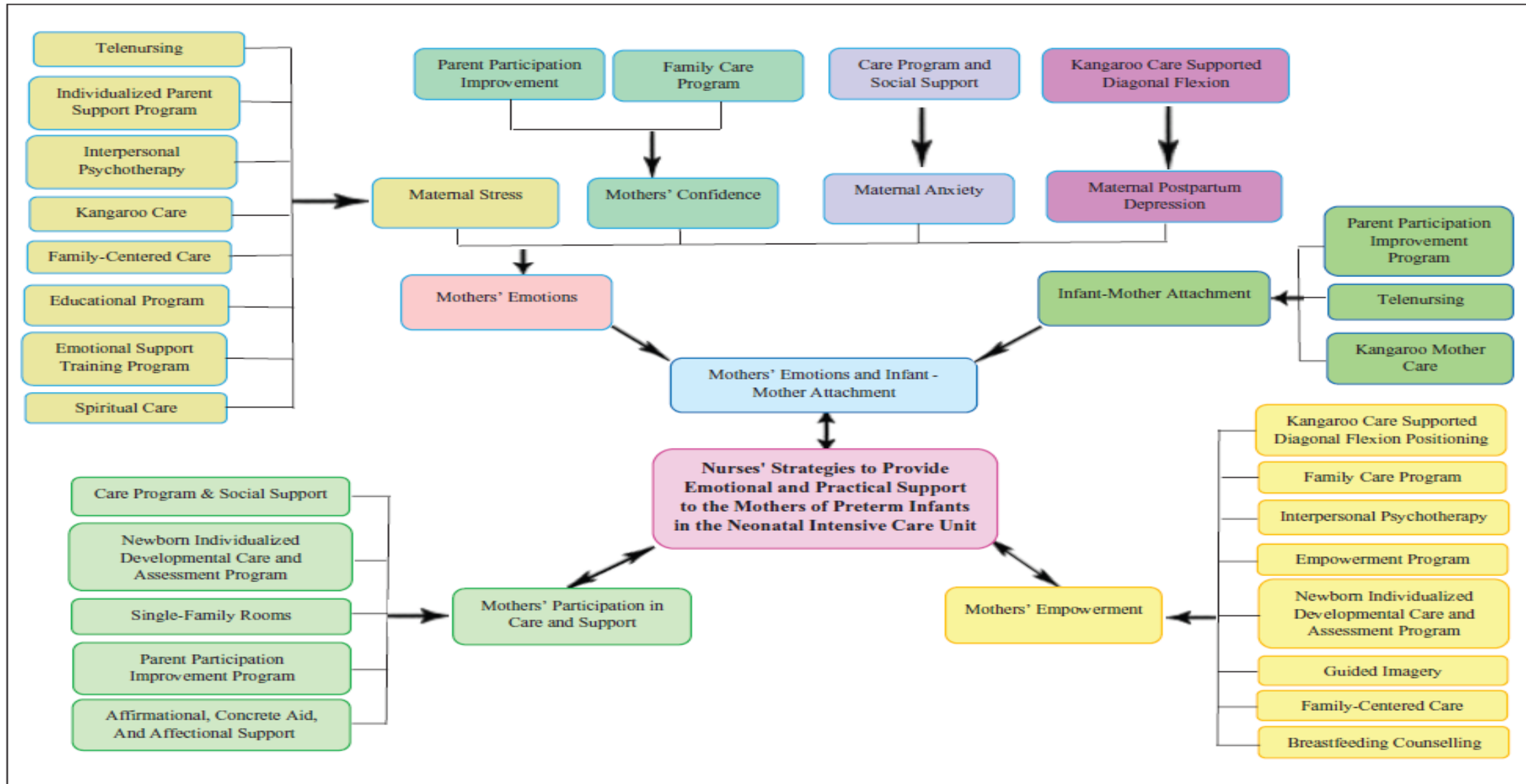
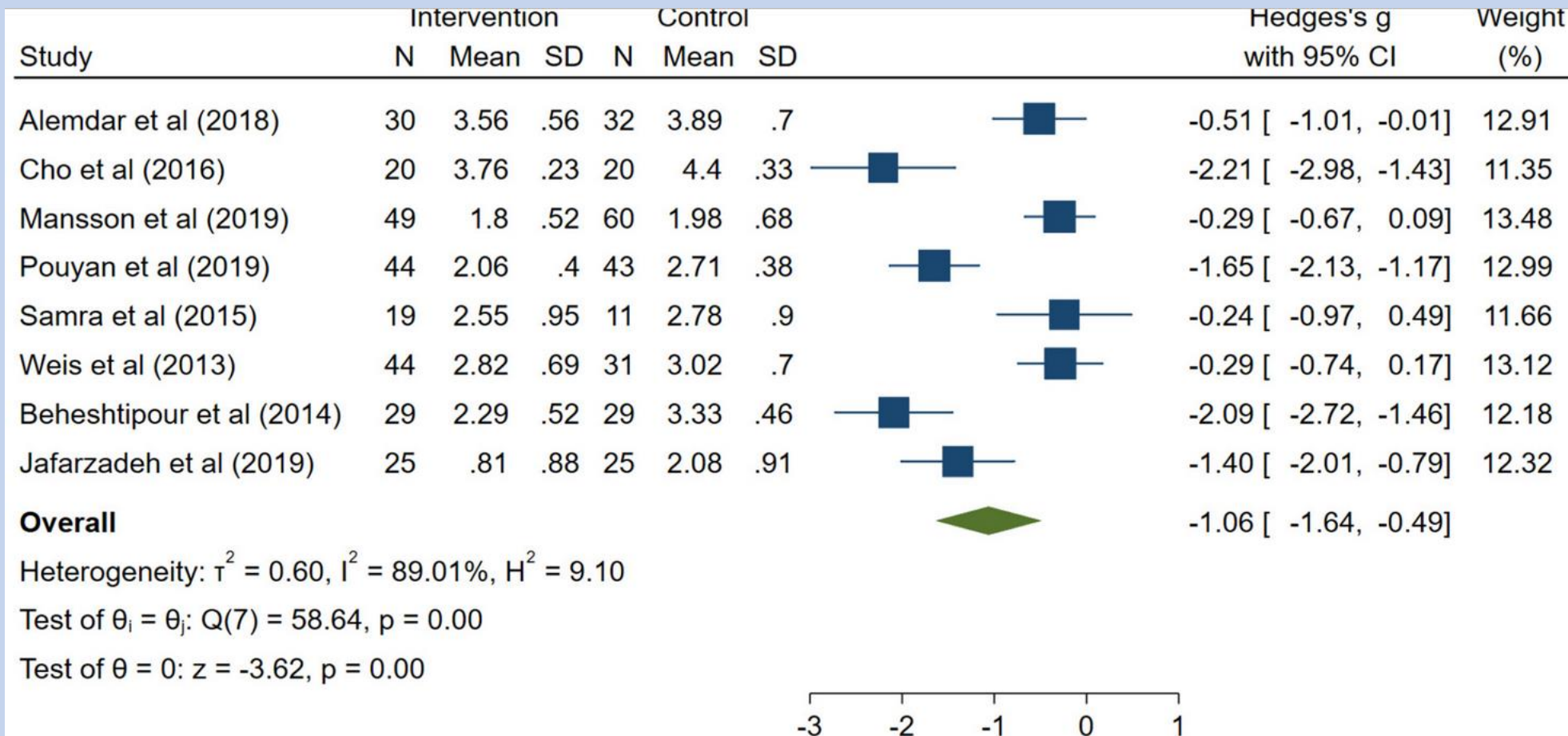


Figure 2. Nursing strategies used to provide emotional and practical support to the mothers of preterm infants in the neonatal intensive care unit.



Random-effects REML model

Results of meta-analysis for mothers' stress

Eight studies consisting of six RCTs and two quasi-experimental studies reported mothers' stress as the study outcome with the same scale. Interventions were including **educational programme, spiritual care, telenursing, parent support programme, SSC, and guided family centred care.**

Since overall heterogeneity was observed in the studies ($I^2 = 89.01\%$, $p < 0.001$), a random-effects model was applied. A total of 511 participants were included. **Significantly lower maternal stress was found in the interventional group compared with that of the control group** ($g: -1.06$; 95% confidence interval: $-1.64, -0.49$; $Z = 3.62$; $p < 0.001$).

To the best of our knowledge, the present study is the first systematic review and meta-analysis that synthesized the findings of quantitative studies and integrated knowledge regarding nursing strategies used to provide emotional and practical support to the mothers of preterm infants in the NICU.

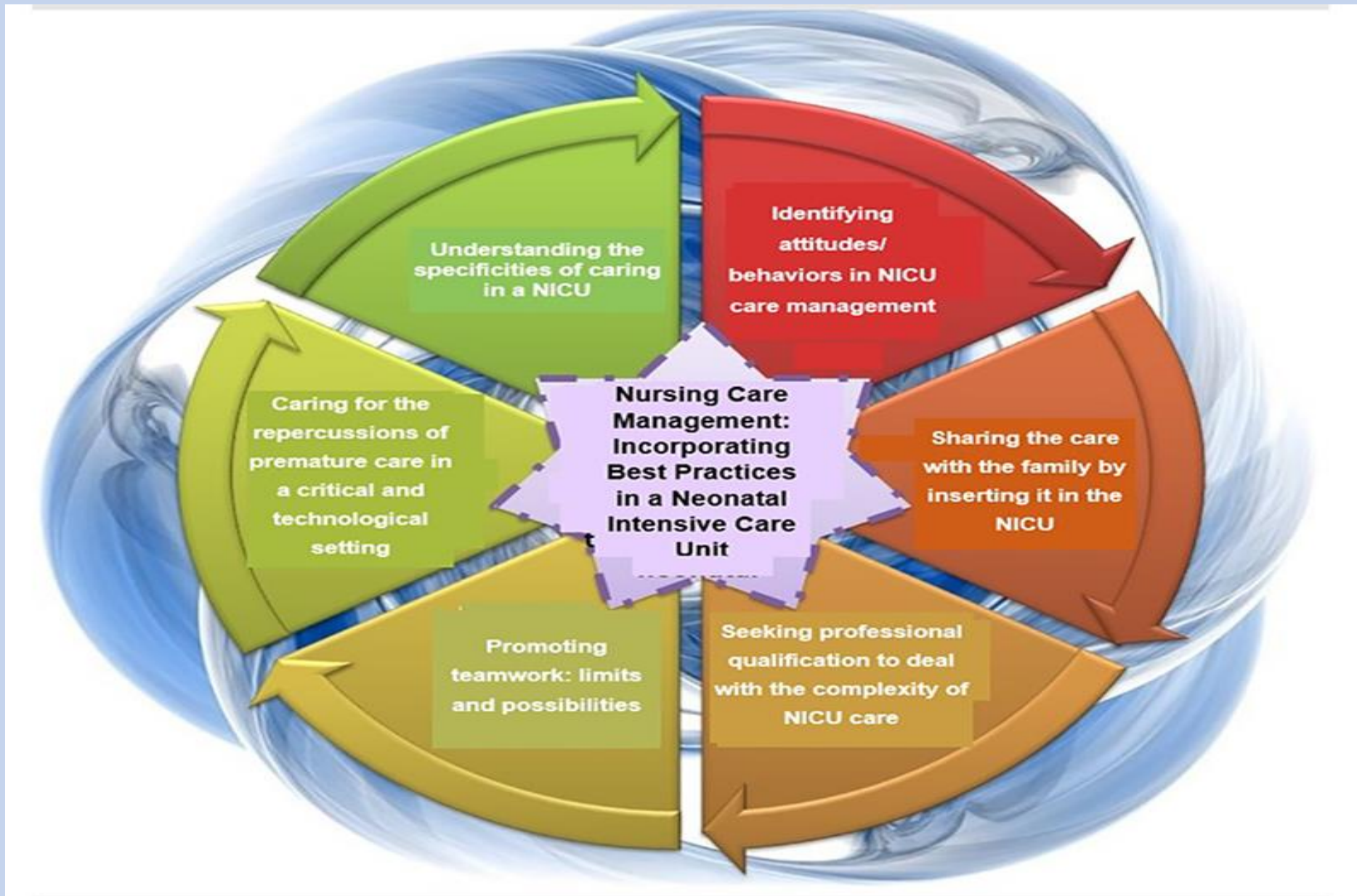
The findings of this review showed that various strategies were used by nurses to provide support for mothers' emotions and mother–infant attachment, mothers' empowerment, and mothers' participation in the care process and support in NICUs.

Perceived maternal stress was the most frequently measured outcome of all maternal emotional outcomes. This is not unexpected because the literature has reported high levels of stress for parents, particularly for mothers with preterm infants in the NICU. Parents are facing a circumstance in which their vulnerable infant's life is being threatened and also they are unfamiliar with the technical environment, the equipment around their infant, and the intercommunication between NICU nurses and medical staff.

Therefore, nursing interventions for the reduction of mothers' stress are very important. The findings showed that using different strategies by nurses including **spiritual care, KMC, telenursing, individualized parent support programme using FCC and person-centred communication, IPT, and training programmes can reduce stress level of preterm infants' mothers in NICUs.**



Premature Birth: What Parents Need to Know



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Thank You!