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# Tips to better day to day communicate with parents in a neonatology unit: a narrative review

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**TIPS TO BETTER DAY TO DAY COMMUNICATE WITH PARENTS IN  
A NEONATOLOGY UNIT: A NARRATIVE REVIEW**

THÈSE  
POUR LE DIPLÔME D'ÉTAT DE DOCTEUR EN MÉDECINE  
SPÉCIALITÉ : PÉDIATRIE

SOUTENUE PUBLIQUEMENT À LA FACULTÉ DE MÉDECINE DE GRENOBLE  
Le 10/04/2024

Par Mme Lucile GABRIEL

*[Données à caractère personnel]*

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**Article type: narrative review**

**Title: Tips to better day to day communicate with parents in a neonatology unit: a narrative review.**

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## **Résumé**

**Objectif** : évaluer comment la communication est réalisée en Réanimation néonatale et donner des outils pour aider la communication entre les soignants et les parents en néonatalogie pour les conversations quotidiennes.

**Méthode** : revue narrative issue d'une recherche de la littérature sur PubMed avec des articles traitant de la communication en néonatalogie. Tous les types d'articles ont été inclus. Le screening des titres/résumés et l'analyse des textes entiers ont été réalisés par plusieurs codeurs indépendants. Les données des articles inclus ont été analysées de manière déductive et inductive.

**Résultats** : 32 articles ont été inclus et catégorisés en 3 thèmes : compétences de base d'une bonne communication, outils et moyens qui renforcent la communication et apprendre la communication

**Conclusion** : les études ont montré que les compétences de bases sont de préparer l'entretien, utiliser le prénom de l'enfant, avoir un soignant dédié pour l'enfant, s'intéresser au côté psychosocial et au mode de vie, faire attention à la communication non verbale, savoir ce que les parents veulent savoir et comment leur dire. Les outils et moyens qui peuvent renforcer la communication sont les acronymes, les algorithmes de communication, les informations écrites, l'utilisation de Facetime ou des SMS ou une communication adaptée aux parents étrangers ou issus de l'immigration. Pour apprendre la communication, la simulation ou l'appel à un conseiller en communication sont de bons moyens. La communication doit s'adapter à chaque parent et spécialement aux parents étrangers ou issus de l'immigration.

## **Summary**

**Aim:** To highlight some skills through literature to improve the daily communication between caregivers and parents in the NICU.

**Method:** a narrative review based on a corpus of texts on PubMed with records which deal with communication in neonate. All types of articles were included. Title/abstract screening and full-text analysis were conducted by multiple, independent coders. Data from selected articles were analysed using deductive and inductive thematic analysis.

**Results:** 32 articles included were categorized in 3 themes: basic skills of good communication, tools and means of strengthening communication and learning communication

**Conclusion:** Studies showed that these basic skills are: preparing the meeting, using the infant's name, having a dedicated caregiver for each infant, being interested in the psychosocial/lifestyle topics, paying attention to non-verbal communication, knowing what parents want to know and how to say it. Some tools and means of strengthening communication are acronyms, communicative algorithm, written information, counselling tools, Facetime or SMS or adapted communication to foreign parents. To learn communication, simulation or calling on a counsellor are good ways.

## **Abbreviations**

NEO-SPEAK: Neonatal prognostic uncertainty, Encounter in (triangular) partnerships, Organization and teamwork, Situational stress, Processuality, Emotional burden, Attention to individuality, Knowledge and experience.

NICU: Neonatal Intensive Care Unit

TAILORED: Topic, Aim, Location, Route, Design

USA: United States of America

## **1 - Introduction**

Communication is one of the bases of the relationship between patients and physicians. (1,2) Certain aspects of doctor-patient communication seem to have an influence on patients' behaviour and well-being, for example satisfaction with care, adherence to treatment, recall and understanding of medical information, coping with the disease, quality of life, and even general health. (3–6)

Generally, communication in paediatrics have to deal with a tripartite relationship between patients, parents and professionals. The role of each is more difficult to define, and the child's contribution can easily be overlooked. In neonatal intensive care unit (NICU), the infant could not be involved in the communication process. It is also a parent caregivers' relationship where parents continually engage in communication with healthcare staff. Family-centred care models strongly encourage effective parent-provider communication, to provide care that fits individual families' needs and preferences. (7–10) Numerous studies showed that parents are often satisfied on how caregivers (nurse and doctors) communicate with them (11–13). The objective of a good communication is: (1) the accuracy of relayed medical information (to make decisions or understand the situation for example), (2) receive appropriate and helping information from the parents to the family, (3) enhance the relationship between caregivers and parents, (4) and reach to a feeling of satisfaction for both caregivers and family. (14,15)

Traditionally, this aspect of medicine was poorly taught in medical schools, and students learned with experience. For several years now, this teaching has been expanding, offering a variety of ways for students to improve their communication skills (simulation, lectures). Many studies highlighted some tips to improve communication with bad news. (16–18)

How to improve the daily communication in neonate? What kind of simple tools can be used to implement a good communication and to help young neonatologists to be more confident with communication?

The objective of this narrative review was to highlight some skills through literature to improve the daily communication between caregivers and parents in the NICU.

## **2 - Material and methods**

This study was a narrative review of communication in neonate that includes all types of original research, which deals with communication in neonate (excluding meta-analysis.)

### **2.1 Data collection**

The literature search for the overall project was conducted in January 2023 by a medical documentalist specialist (FB). The study research was made on PubMed with the following equations:

- ((parent\*[MeSH Terms]) AND (communication\*[MeSH Terms])) AND (intensive care units, neonatal[MeSH Terms]) Sort by: Most Recent

310 results

- ((intensive care units, neonatal[MeSH Terms]) AND (communication\*[MeSH Terms])) AND (professional-family relations[MeSH Terms])

125 results

- ("neonatology"[MeSH Terms] OR "intensive care units, neonatal"[MeSH Terms]) AND ("communication"[MeSH Terms] OR "Smartphone"[MeSH Terms]) AND ("parents"[MeSH Terms] OR "family"[MeSH Terms] OR "professional family relations"[MeSH Terms])

298 results

The combinations of the three equations with the Boolean OR operator gave 372 results from which 5 duplicates were removed. No restrictions on language or publication date were imposed. Title/abstract screening was conducted by two independent coders (LG, MC), when

in doubt, records were included for full-text analysis. We excluded all studies which talked about worst prognosis communication, end of life communication, antenatal communication or ethical communication which requires specific means of communication. This resulted in 38 records for full-text assessment (Figure 1). Full-texts were assessed by LG, applying the following inclusion/exclusion criteria: unpublished (e.g. abstracts, theses, posters), non-empirical (e.g. research protocols, editorials, opinion pieces), and non-English records were excluded, this corresponds to six articles excluded.

## **2.2 Data extraction and data analysis**

To systematically extract and organize data from full-text records, a data extraction sheet was used. The sheet included meta-data (e.g., title, authors, publication year, type of article), methodological aspects (outcomes, number of patients in the study) and the results of the study. Findings reported in discussion sections were read but not used, to avoid extracting interpretations rather than data.

## **3 – Results**

The 32 articles included were categorized in three themes, which were discussed by the research team: basic skills of good communication, tools and means of strengthening communication and learning communication.

### **3.1 -Basic skills of good communication (table 1)**

#### **3.1.1 Preparing the meeting**

The consultation should be prepared with the appropriate medical information; Drago *et al* studied 21 private and prescheduled meetings about daily communication between medical staff and family of a neonate in a quaternary care NICU in the USA. They showed that for 15

meetings, the medical information was inaccurate and the doctors were not fully informed. In this study, 5 /21 parents reported feeling too nervous or underprepared to ask the question. A suggested solution by authors was to offer different tools, before the first meeting, to improve the understanding (questions prompt list, drawings, written education tools, definition of acronyms) (12)

### **3.1.2 Evident keys for a good communication**

Adequate communication between healthcare professionals and parents in the NICU contributes to parents' satisfaction with care and diminishes their stress levels. In addition, good communication ensures that parents feel more involved in the care of their child and, conversely, that poor communication can lead them to withdraw from the NICU and its staff, thereby hampering parent-infant attachment. (14)

Before talking about the content of the interview, many studies reminded the evidence of knowing the name of the baby and to humanize them during the meeting (19). One study in 2016 in a level four NICU in the USA found that the infant's name was not used by clinician in over 36% (n=7/19) of the meetings and expression like "the baby" were preferentially used rather than reference to the baby's gender or name. Germana *et al* suggested in her 10 steps approach for communication in NICU paper to conduct the meeting in a calm, peaceful, and quiet environment (**Supplementary material 1**) (20).

Moreover, at the beginning of the meeting, healthcare professionals should introduce themselves, explaining their role in the unit, introducing the team, and describing each member's specific tasks, thus allowing families to feel welcome and more secure. (12,20). Parents prefer to build and maintain trusting relationships with dedicated nurses and neonatologists, rather than encountering many different professionals (13,14) but in practice it may be difficult in healthcare organizations. Parents felt a lack of staff continuity: 14.2% for nurse staff continuity and 6.3% for doctors. A parent said: "Continuity has been poor

sometimes. It was hard to know who would be working when. Just when you were beginning to have confidence in someone they would go work somewhere else and not come back”. (13) The construction of the communication should be clear, direct, with a simple vocabulary, an empathetic tone and leave some breaks to give parents the opportunity to ask questions or express their emotions. (14,20,21) “Interruptions, such as cell phones ringing or staff coming and going during the meeting, were noted in ten meetings” out of 21 in Drago *et al* study (12). Clinicians should make himself available during the meeting to answer questions, validate parent’s emotions and show them that you are accessible.

One study of Boss *et al* (19) observed the content and quality of patient-provider communication with a quantitative tool when they communicate with parents about difficult news in NICU. The authors showed that clinicians asked relatively few questions about the family especially in regard to psychosocial/lifestyle topics (means 6.7 and 0.9 words respectively with standard deviation 8.1 and 1.18 respectively) in contrast to biomedical information giving (mean 166 words for a mean meeting duration at 30.7 minutes). That means that in some meetings, questions about psychosocial or lifestyle topics are not asked.

On Wigert *et al* study (13), 15% of the parents commented on a lack of professionalism: they described caregivers as “rude, stressed”. For them a professional caregiver is “competent, calm, confident and knowledgeable”. Although the tones and words matter, non-verbal communication is also essential as shown by Nimbalkar *et al* (22). Out of 150 videos of counselling sessions evaluated using a Non-verbal Immediacy Scale Observer Report (a 5-point scale to assess 26 statements describing behaviour of people while talking with others; **Supplementary material 2**), the mean total score was significantly less in male doctors as well as female as compared to norms ( $p < 0.001$ ) and no video revealed High Score.

Pirrello *et al* studied recorded doctor’s conversation with parents in neonate. Each communication was subjected to a content analysis, in order to identify thematic categories and

formulate and classify the communications' content based on the relevant indicators. Analysis and interpretation of the data were carried out individually, then collectively by a multidisciplinary group of three investigators. They demonstrated that for diagnostic and therapeutic management, doctors used a more reassuring tone ( $p < 0.05$ ) than when talking about therapeutic limitation and comfort care. Conversely, life, death, therapeutic steadfastness and empathy were more significantly represented when doctors talked about therapeutic limitation and comfort care than for diagnostic and therapeutic management ( $p < 0.05$ ). (23)

### **3.1.3 What the parents want to know? How the information should be delivered?**

Kowalski *et al* questioned parents about who provides them the medical information and what expectation they have regarding obtaining clear medical information; 63% of parents expected the neonatologist to inform them of the changes in their newborn's medical condition (11). For 67% of the parents the rounds was the best moment to be given information versus 47% during a time separate from rounds (11). Actually, there is a certain evidence of family centre round. (24) (This article is not included in the review because it is about family centre care).

A second consideration is to build understanding: clinicians should ask parents what they understood of the situation, clarify families' misperceptions to start on the same page. Drago *et al* showed that 27% of the parents reported a different perception of their child's care compared to the conversation that occurred during their family meeting with caregivers. (12)

When information lacks details, it allows for different interpretations. In the Wigert *et al* study, 48.5% of the parents felt they had poor information given during the hospitalization, 8.3% felt a lack of continuous information (13). Kim *et al* showed that "most parents of premature infants want to be informed about the potential risks and outcomes for their child and seek more information than is currently provided to them" (25). However we have to adapt the information to each parent, for example by "reading the parents' body language and the types of questions they ask in order to determine how much information they would like" or regarding the

statistical data, “some parents preferring statistics and some not wanting to hear any numbers”(26). A study about an analysis of 40 discussions carried out between doctors on 26 newborn infants to find communication strategy recommended that, when doctors give daily information, there should be a progression of the information: (1) focusing on basic uncertainties, with sentences like "We are in a situation that is quite disturbing for your daughter, uh for now it's a bit early to say", (2) exposing the current situation, (3) giving the medical knowledge, (4) the means implemented against the current situation, (5) the diagnosis, (6) the project change and to finish, (7) persistent uncertainty (21). (**Supplementary material 3**). This allows every doctor to have the same basic communication.

To conclude the meeting, you can repeat with the parents what you said, what they understood, answer their questions, repeat the care plan. You also have to give them some hope and reassurance to enable parent self-management (we will see how in the next paragraph) (20,21,26). Doctors may also make a summary of the meeting and explain the new care plan with the staff and document it. Then you have to take care of the follow up and the continuity of care: applying the new care plan, programming the next meeting, deciding who will execute each task (12).

The intervention of a social worker during the discussion between parents and caregivers may help the communication. In some countries (USA), NICU social workers may have a role of (1) translator (serving as a communicative bridge between parents and the medical team), (2) coordinator tasked with helping parents navigate the health care system and connecting parents to resources, (3) expectation manager in helping parents conceptualize the remainder of the medical course and (4) supporter by validating parental values and concerns. In this study about the extent and nature of social worker participation in family conferences for critically ill infants, social workers spoke less than 10% of the time (he was present on 51/68 meetings). Despite contributing to a minority of discussion content, social workers leveraged their

speaking time to play critical, multidimensional roles to support both parents and interdisciplinary members of the care team (when he spoke, 98% of the time he played 2 roles and 56% the 4 roles that we describe). (27)

### **3.2 Tools and means of strengthening communication (table 2)**

#### **3.2.1 Use of acronyms to remember basic skills**

Some authors built acronyms which can guide caregivers when they communicate with parents, to remember the factors of adequate communication or to improve the experience of delivering bad news for parents, as well as for the caring team.

Wreesmann *et al* (14) advise using the acronym TAILORED : Topic, Aim, Location, Route, Design. Prior to initiating interaction with parents, to ensure communication adequacy, providers should carefully consider the precise topic, or content, of what is going to be discussed. After that, they should determine the main aim of the conversation (e.g. informing, reassuring, or preparing parents) but also the location where it takes place and the time. The route refers to who the source or sender of communication is and who participates, it may include a choice between a nurse or a neonatologist, but also the option to offer written information or to conduct conversations via telephone. The design is how the message is communicated, the communication style they want to use (e.g. objective and direct, empathetic, coaching).

The NEO-SPEAK (Neonatal prognostic uncertainty, Encounter in (triangular) partnerships, Organization and teamwork, Situational stress, Processuality, Emotional burden, Attention to individuality, Knowledge and experience) acronym was proposed by Seifart *et al* (28) to succeed in managing breaking bad news in neonatology. The first three acronym components N-E-O are related to the specific care situation in neonatology: the special medical partnership and care context with the elements of Neonatal prognostic uncertainty (age-related diagnosis, prognosis, uncertainty). The E is for Encounter in partnership respecting the unique

triangular relationship between newborns, parents and the whole treatment team. The O for Organisation and team work (the need for lively and intensive teamwork). The SPEAK part is useful for every communication. Situational stress means that caregivers have to deal with the parental stress, to have a sensitive approach. Processuality implies communicating regularly in a continuous process. The Emotional burden (parental and professional) is an important factor to consider. Professionals are asked to pay Attention to the individuality of each case and the K is related to how the Knowledge and experience can influence the communication.

In the continuity of acronyms, Biasini *et al* (29) suggested using the same communication model by every caregiver to each communication with parents. They created a communication algorithm built from some of the most frequent and recurring clinical scenarios (for example Counselling parents about the prognosis of their extremely preterm born baby (22–25 week of gestational age) in the first hours of life or counselling parents of a premature baby staying in the NICU, after a sudden and unexpected worsening of his conditions or chance given to the parents to ask and communicate their problems). The algorithm is used by all the professionals of a same unit. Parents agreed with this way of communication even if paradoxically they felt a lack of coherence in the communication between caregivers (6/8 families).

### **3.2.2 Written tools for parents**

Some authors did recommendations based from literature search to develop and to evaluate current written educational tools and information that meet the needs of specific parent populations (30):

- evaluating the population of parents and their literacy level to adapt the tools to them
- the sentences must be short in a clear language, a friendly tone
- illustrations must be simple and serve to amplify the text.
- eliminating unnecessary details and lower the readability level
- writing should encourage specific actions and invite reader interaction

- using parents to test your tool and give you feedback.

Parents are satisfied with written tools as shown by Lemmon *et al* (31) who developed a question prompt list with a suggested list of parental questions to ask clinicians during meeting to prepare for it (**Supplementary material 4**). These questions addressed how to be a NICU parent or how to communicate with the medical team, or more specific questions about the gastrostomy tube or therapeutic hypothermia. Parents found it would help them prepare the meeting (4.6/5), make it easier to ask the questions (4.5/5), help them think about questions they didn't think of before (4.1/5).

Another kind of written tool can be a health education tool given to parents at the beginning of the hospitalisation. Hesham *et al* (32) developed a guide which contains answers to questions commonly asked by parents, such as the safety of the baby, feeding in the NICU, medical care, investigations, various types of equipment, and the importance of follow-up after discharge and coloured pictures about the field of the NICU. Most fathers (90%) fully understood the guide and 96% found the guide had a positive impact. Researchers asked some questions before and after fathers read the guide about feelings or knowledge about NICU and neonatal care inside the unit. There was a significant increase in prevalence of parents who were feeling comfort after reading the guide ( $p<0,001$ ) and a significant improvement in knowledge of parents regarding the NICU and neonatal care inside the unit ( $p<0,001$ ) about the ventilator, the phototherapy, infection control, breast feeding.

### **3.2.3 New technology tools**

With the emergence of new technologies, new means of communication appeared. Epstein *et al* (33) tested the feasibility of Skype and Facetime in communication throughout the NICU stay in addition to daily communication. Parents' impressions of information sharing, NICU care, relationships with their infants' doctors and nurses, are significantly different before and after the video communication ( $p=0.001$ ).

Some authors (34) also found a statistically significant improvement in the relationship between parents and caregivers but with the use of daily SMS sent by nurses with information about their infant from data taken automatically from the computer. This did not reduce real time communication. Moreover there were no significant differences between pre- and post-SMS in the nurses' assessment of the time that they spent on the telephone with parents, the number of times that they called parents or that parents called them during a shift. The new technology tools may constitute a complementary modality of communication with parents when they are away.

### **3.2.4 Foreign family**

Some studies show that it's difficult to communicate with foreign parents. The language barriers may lead to misunderstanding. For example a study in the USA, led by the NICU of Children's Hospital Colorado showed that Spanish-speaking parents were 4 times more likely to incorrectly identify their infants diagnosis than English-speaking parents (5/88, 6%). (35) The authors also reported significantly lower understanding of diagnostic imaging and laboratory tests as compared to English-speaking parents. This may lead to difficulties at discharge, for the follow-up of the infant as suggested by Blanco *et al.* (36)

To help communication in this situation, caregivers often use an interpreter. But, a NICU Scandinavian study showed that they are usually used more frequently for physician's information than for daily routine communication despite the fact that nurses and mother would like one (37). "Health care professionals had the power to decide the level of access to communication, and they decided both the intensity and the frequency of the conversations" (38). The limitation of using an interpreter may be the short amount of time they dedicate to a discussion, technological problem when they use telecommunication (38), mistranslating when it's a family translator (37,39).

Several other solutions may help to enhance the communication when a language barrier between healthcare professionals and parents exists. First of all, body language is important to create “a good and safe atmosphere”, to smile and build confidence with the parents in order to avoid misunderstanding. (37) Kynoe *et al* demonstrated that “the nurse’s conscientious repetition of words and most importantly, actions, the mothers gradually were able to understand. Observations revealed that communication improved when the eye contact between nurse and mother was good”. Pictorial support (38), key-word charts or small glossaries could be helpful in very simple collaborative situations (37) or written materials in their native language (35). Google Translate should be used with caution, it can be somewhat helpful but also cause translation errors. (37) Munoz Blanco *et al* created a Question Prompt list, written and audio, to help foreign parents think about questions and help them navigate in the NICU. Some authors suggested the help of a cultural broker. This “an active participant who helps health care professionals understand attitudes within the parents’ culture and helps parents understand [the country’s] culture, thus bridging the gap between them” (37) .

### **3.3 Learning communication (table 3)**

#### **3.3.1 Counsellor**

Some Italian authors evaluated the way of learning communication with calling on a counsellor. “Counselling is a professional intervention based on skills to communicate and to build relationships”. (40) Counselling is addressed to people who are living a difficult or unexpected situation and they are able neither to modify nor to avoid it. Counselling is developed by all the professionals that intervene in that situation or that are involved to face up to the requirements of information, explanations, facility of decisions, finding of resources, agreement, help, reassurance, and attention. The counsellor can be present for the medical staff and guide caregivers by discussing difficult situations to share possible communicative strategies. They

also “form the ability of counselling through periodic courses for all professionals of the department”. (41) In Italy, counsellors meet parents and their intervention allows for a better parent orientation in the situation. A more effective sharing of these rules also facilitates communication among parents and medical staff according to Cosica *et al.*

### **3.3.2 Simulation for communication skills**

Simulation helps caregivers to be better prepared and provide comfort when giving bad news. Lechner *et al* (42) studied the use of simulation in communication among fellows, it allowed them to be better comforting when delivering bad news compared to before the simulation. However, observing mentors and the respondents’ own clinical practice since fellowship was the highest ranked difficult conversations learning experiences. Other authors had the same conclusion : learners overall reported feeling very well-prepared (4.5 on a Likert-type scale) and 12/13 participants rated this training as one of the most important aspects of their clinical training (43). Or in the Kasat *et al* (44) study, 109 professionals were trained in the workshops, most of them felt better comfortable with daily communication , discussing end of life issues, managing anxiety around difficult conversations, comforting a sad family and handling a combative situation after simulation compared to before simulation.

Caregivers improved their communication skills body position and pausing after bad news with experience of communication simulation.(42) They more frequently practice using jargon-free language (4.3), ask-tell-ask (ask what the family understands, tell them the new information, ask what they heard you say) (4.5), using open-ended questions (4.6) and asking family members what they want for their infant (4.7). (43) Similarly some authors report an improvement of the baby’s first name use ( $p=0,02$ ), the emotional support or counselling services offered to the parents by staff ( $p=0,03$ ) and the information about parent support group given to parents by staff ( $p=0,03$ ). (44) Simulation in communication can also concern nurses and the studies showed the same results. (45)

### **3.3.3 Simulation in communication with parents**

One way to conduct a communication course with simulation may be including family members who had personal experience with a child in an intensive care setting as educators. *Parham et al* (46) showed that participants after experiencing simulation communication course with family felt more prepared after the course to give bad news ( $p=0,0007$ ), discuss palliative care ( $p<0,0001$ ), express empathy ( $p<0,0001$ ). The family participants were asked to evaluate the participants in three areas, including verbal communication, non-verbal communication, and empathetic listening. They appreciated the opportunity to share their perspective and personal experience with physicians into the training. Participants also appreciated the fact that families were the educators; they found the inclusion of the real-life experiences of the family participants to be one of the most useful aspects of the training and felt that through this type of educational experience, communication with families could be improved.

## **4 - Discussion**

In the NICU, enhancing daily communication between the parents and the medical team is for the health of the infant, the mental health of the parents, as well as for shared decision making. (14,47,48) This study highlighted three points to apply for young neonatologists to improve on. Firstly, knowing basic skills is the first means of good communication. For example, preparing the meeting, using the infant's name, to ask questions about psychosocial/lifestyle topics, to pay attention to non-verbal communication, to ask what parents want to know and how to say it were mentioned in studies. We can find the same communication theme in adult patients. (49) Secondly, this study summarized certain acronyms or a communication algorithm so that neonatologists always have the same plan and do not forget the essential elements. (44–47) With the emergence of new technologies, new means of communication have appeared like the use of Facetime or SMS to give some information about the newborn to their parents. Several

studies are interested in the use of cameras in NICU to enhance the parent-infant bonding. (50–52). The communication has to be enhanced for all parents, especially to foreign parents. This concerns the translation of the information but also adapting the discussion to the cultural differences.

Finally, the simulation in communication for young neonatologist and older seems to improve daily communication. It can involve real NICU parents as educators. All caregivers are satisfied with simulation and some felt it was the one of the most important aspects of their clinical training. Another way of learning communication is to call on a counsellor. (40–46)

The results of this review have to be interpreted in light of some limitations. First, we searched studies only in the Pubmed data base, studies on other databases may have provided us other information and advice on communication. Inclusion for full-text analysis was limited to articles in English, resulting in the exclusion of 1 article and inducing a bias towards Anglo-Saxon neonatal cultures. We cannot be certain that excluded records would have revealed different insights or advice concerning communication in NICU. Second, this review tends to get closer to the PRISMA criteria but does not tick all the boxes due to the fact that it is not a systematic review. A strength of this study is that, we purposefully included the views of parents as well as healthcare professionals, thereby warranting a full-blown picture of what adequate NICU communication entails.

Douglas Jones said that communication is surely part of the “art of medicine,” yet no artist succeeds without first becoming, with mentored practice, an expert craftsman” Douglas Jones Jr (53). Traditional education for health care professionals has assumed that communication skills are innate and not deserving of structured educational interventions but all the recent research showed that good communication can be learned. This review gave some tools and advice to have structured communication with NICU parents.

## **5 - Conclusion**

Good daily communication is essential in NICUs to establish a relationship of trust with parents. The aim of this review is to highlight some of the ways in which neonatologists can improve this communication: by setting up the right configuration, by making available known and lesser-known tools and, finally, by running communication training simulations.

## **Conflicts of interest**

None of the authors have any conflicts of interests to declare.

# CONCLUSION SIGNÉE

THÈSE SOUTENUE PAR : Lucile GABRIEL

TITRE :

Tips to better communicate with parents in neonatology unit: a narrative review

CONCLUSION :

Good daily communication is essential in NICUs to establish a relationship of trust with parents. The aim of this review is to highlight some of the ways in which neonatologists can improve this communication: by setting up the right configuration, by making available known and lesser-known tools and, finally, by running communication training simulations.

VU ET PERMIS D'IMPRIMER

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## **REFERENCES**

1. Smith CK, Polis E, Hadac RR, Ed M. Characteristics of the Initial Medical Interview Associated with Patient Satisfaction and Understanding. *THE JOURNAL OF FAMILY PRACTICE*. 1981;12(2).
2. Dutta-Bergman MJ. The Relation Between Health-Orientation, Provider-Patient Communication, and Satisfaction: An Individual-Difference Approach. *Health Communication*. 2005 Nov;18(3):291–303.
3. Street RL, Makoul G, Arora NK, Epstein RM. How does communication heal? Pathways linking clinician–patient communication to health outcomes. *Patient Education and Counseling*. 2009 Mar;74(3):295–301.
4. Haskard Zolnierok KB, DiMatteo MR. Physician Communication and Patient Adherence to Treatment: A Meta-Analysis. *Medical Care*. 2009 Aug;47(8):826–34.
5. Roter DL, Hall JA, Katz NR. Relations between Physicians’ Behaviors and Analogue Patients’ Satisfaction, Recall, and Impressions. *Medical Care*. 1987;25(5):437–51.
6. Bartlett EE, Grayson M, Barker R, Levine DM, Golden A, Libber S. The effects of physician communications skills on patient satisfaction; Recall, and adherence. *Journal of Chronic Diseases*. 1984 Jan;37(9–10):755–64.
7. Committee on Hospital Care. Family-Centered Care and the Pediatrician’s Role. *Pediatrics*. 2003 Sep 1;112(3):691–6.
8. Gooding JS, Cooper LG, Blaine AI, Franck LS, Howse JL, Berns SD. Family Support and Family-Centered Care in the Neonatal Intensive Care Unit: Origins, Advances, Impact. *Seminars in Perinatology*. 2011 Feb;35(1):20–8.
9. Griffin T. Family-centered Care in the NICU. *The Journal of Perinatal & Neonatal Nursing*. 2006 Mar;20(1):98.
10. Kokorelias KM, Gignac MAM, Naglie G, Cameron JI. Towards a universal model of family centered care: a scoping review. *BMC Health Serv Res*. 2019 Dec;19(1):564.
11. Kowalski WJ, Leef KH, Mackley A, Spear ML, Paul DA. Communicating with parents of premature infants: who is the informant? *J Perinatol*. 2006 Jan 1;26(1):44–8.

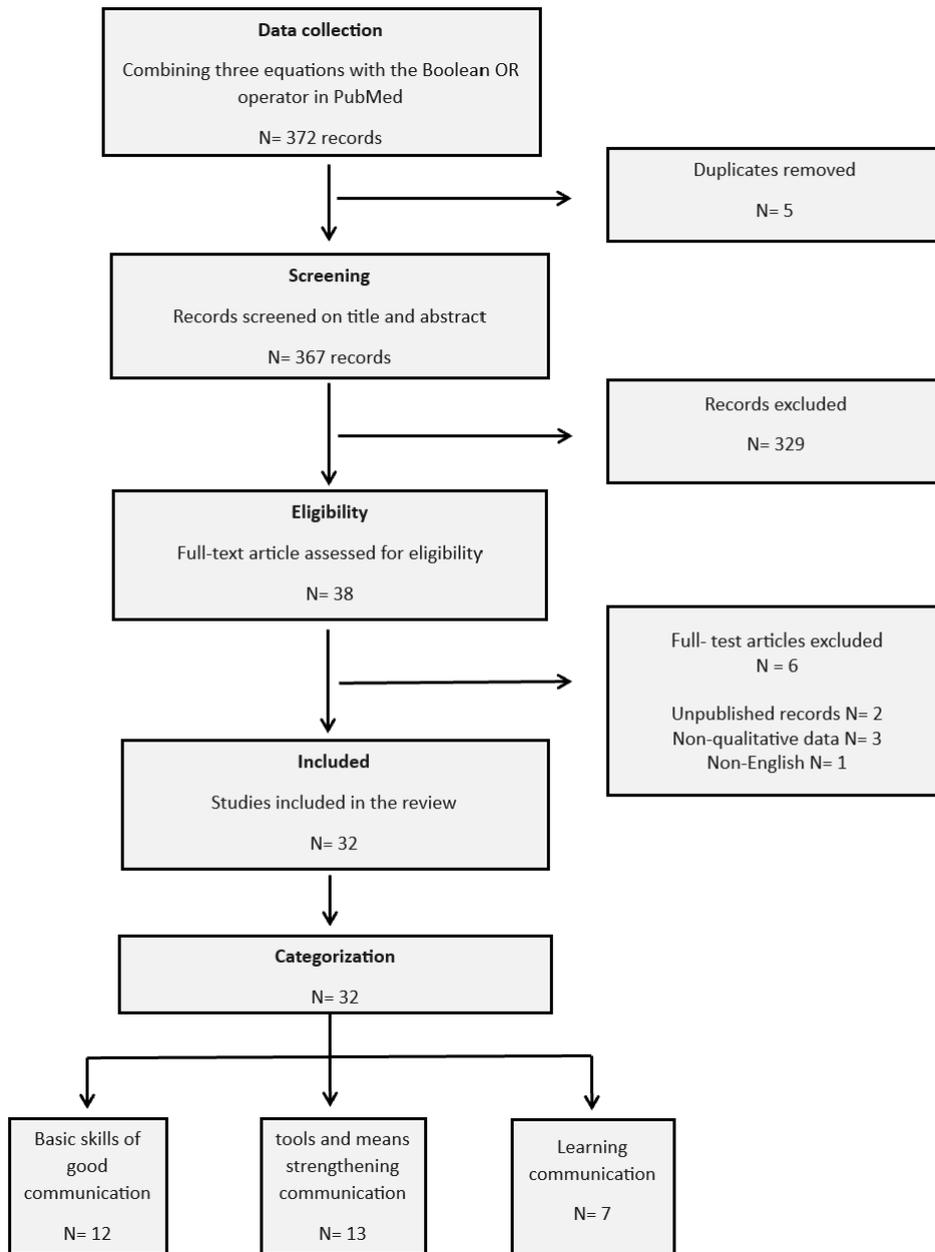
12. Drago M, Lorenz JM, Hammond J, Hardart GE, Morris MC. How to hold an effective NICU family meeting: capturing parent perspectives to build a more robust framework. *J Perinatol.* 2021 Sep;41(9):2217–24.
13. Wigert H, Dellenmark MB, Bry K. Strengths and weaknesses of parent–staff communication in the NICU: a survey assessment. *BMC Pediatr.* 2013 Dec;13(1):71.
14. Wreesmann Wjan W, Lorié ES, Van Veenendaal NR, Van Kempen AAMW, Ket JCF, Labrie NHM. The functions of adequate communication in the neonatal care unit: A systematic review and meta-synthesis of qualitative research. *Patient Education and Counseling.* 2021 Jul;104(7):1505–17.
15. Sudia-Robinson TM, Freeman SB. Communication patterns and decision making among parents and health care providers in the neonatal intensive care unit: A case study. *Heart & Lung.* 2000 Mar;29(2):143–8.
16. Janvier A, Barrington K, Farlow B. Communication with parents concerning withholding or withdrawing of life-sustaining interventions in neonatology. *Seminars in Perinatology.* 2014 Feb;38(1):38–46.
17. Baile WF, Buckman R, Lenzi R, Glober G, Beale EA, Kudelka AP. SPIKES—A Six-Step Protocol for Delivering Bad News: Application to the Patient with Cancer. *The Oncologist.* 2000 Aug 1;5(4):302–11.
18. Racine E, Bell E, Farlow B et al. The ‘ouR-HOPE’ approach for ethics and communication about neonatal neurological injury. *Developmental Medicine & Child Neurology.* 2017;59(2):125–35.
19. Boss RD, Donohue PK, Larson SM, Arnold RM, Roter DL. Family Conferences in the Neonatal ICU: Observation of Communication Dynamics and Contributions\*. *Pediatric Critical Care Medicine.* 2016 Mar;17(3):223–30.
20. Germana C, Miranda F, Carvalho C. Communication in a Neonatal Intensive Care Setting: 10-Step Approach. *Acta Med Port.* 2022 May 2;35(5):316–9.
21. Sorin G, Dany L, Vialet R et al. How doctors communicated with parents in a neonatal intensive care: Communication and ethical issues. *Acta Paediatrica.* 2021 Jan;110(1):94–100.
22. Nimbalkar SM, Raval H, Bansal SC, Pandya U, Pathak A. Non-verbal Communication in a Neonatal Intensive Care Unit: A Video Audit Using Non-verbal Immediacy Scale (NIS-O). *Indian J Pediatr.* 2018 Nov;85(11):1025–7.

23. Pirrello J, Sorin G, Dahan S, Michel F, Dany L, Tosello B. Analysis of communication and logistic processes in neonatal intensive care unit. *BMC Pediatr.* 2022 Dec;22(1):137.
24. Abdel-Latif ME, Boswell D, Broom M, Smith J, Davis D. Parental presence on neonatal intensive care unit clinical bedside rounds: randomised trial and focus group discussion. *Arch Dis Child Fetal Neonatal Ed.* 2015 May;100(3):F203-209.
25. Kim UO, Basir MA. Informing and Educating Parents About the Risks and Outcomes of Prematurity. *Clinics in Perinatology.* 2014 Dec;41(4):979–91.
26. Winters R, Hennigan CM, Tucker R, Clark MA, Hawes K, Lechner BE. Words matter: exploring communication between parents and neonatologists. *J Perinatol.* 2022 Jun;42(6):745–51.
27. Farley S, Bansal S, Barks MC et al. Role of Social Workers in Family Conferences for Critically Ill Infants. *Journal of Palliative Medicine.* 2022 Aug 1;25(8):1236–42.
28. Seifart C, Falch M, Wege M, Maier RF, Pedrosa Carrasco AJ. NEO-SPEAK: A conceptual framework that underpins breaking bad news in neonatology. *Front Pediatr.* 2022 Nov 9;10:1044210.
29. Biasini A, Fantini F, Neri E, Stella M, Arcangeli T. Communication in the neonatal intensive care unit: a continuous challenge. *The Journal of Maternal-Fetal & Neonatal Medicine.* 2012 Oct;25(10):2126–9.
30. Menghini KG. DESIGNING AND EVALUATING PARENT EDUCATIONAL MATERIALS. *Advances in Neonatal Care.* 2005 Oct;5(5):273–83.
31. Lemmon ME, Donohue PK, Williams EP, Brandon D, Ubel PA, Boss RD. No question too small: development of a question prompt list for parents of critically ill infants. *J Perinatol.* 2018 Apr;38(4):386–91.
32. Hesham MS, Mansi Y, Abdelhamid TA, Saleh RM. Impact of a health education tool on enhancing communication between health providers and parents of neonates in intensive care in Egypt. *Journal of the Chinese Medical Association.* 2016 Jul;79(7):394–9.
33. Epstein EG, Sherman J, Blackman A, Sinkin RA. Testing the Feasibility of Skype and FaceTime Updates With Parents in the Neonatal Intensive Care Unit. *American Journal of Critical Care.* 2015 Jul 1;24(4):290–6.

34. Globus O, Leibovitch L, Maayan-Metzger A et al. The use of short message services (SMS) to provide medical updating to parents in the NICU. *J Perinatol*. 2016 Sep;36(9):739–43.
35. Palau MA, Meier MR, Brinton JT, Hwang SS, Roosevelt GE, Parker TA. The impact of parental primary language on communication in the neonatal intensive care unit. *J Perinatol*. 2019 Feb;39(2):307–13.
36. Munoz-Blanco S, Boss RD, DeCamp LR, Donohue PK. Developing an audio-based communication tool for NICU discharge of Latino families with limited English proficiency. *Patient Education and Counseling*. 2022 Jun;105(6):1524–31.
37. Kynoe NM, Fugelseth D, Hanssen I. When a common language is missing: Nurse–mother communication in the NICU. A qualitative study. *Journal of Clinical Nursing*. 2020 Jul;29(13–14):2221–30.
38. Patriksson K, Nilsson S, Wigert H. Conditions for communication between health care professionals and parents on a neonatal ward in the presence of language barriers. *International Journal of Qualitative Studies on Health and Well-being*. 2019 Jan 1;14(1):1652060.
39. Merritt L. Communicating with Chinese American Families in the NICU Using the Giger and Davidhizar Transcultural Model. *Neonatal Network*. 2013;32(5):335–41.
40. Coscia A, Bertino E, Tonetto P et al. Communicative strategies in a neonatal intensive care unit. *The Journal of Maternal-Fetal & Neonatal Medicine*. 2010 Oct;23(sup3):11–3.
41. Coscia A, Martano C, Cresi F et al. Communication in NICUs. *J Biol Regul Homeost Agents*. 2012;26(3 Suppl):31–3.
42. Lechner BE, Shields R, Tucker R, Bender GJ. Seeking the best training model for difficult conversations in neonatology. *Journal of Perinatal Medicine [Internet]*. 2016 Jan 1 [cited 2023 Dec 12];44(4).
43. Boss RD, Urban A, Barnett MD, Arnold RM. Neonatal Critical Care Communication (NC3): training NICU physicians and nurse practitioners. *J Perinatol*. 2013 Aug;33(8):642–6.
44. Kasat K, Stoffels G, Ellington M. Improving communication with parents: the Neonatal Intensive Care Unit Empathy Workshop. *J Perinatol*. 2020 Sep;40(9):1423–32.

45. Bry K, Bry M, Hentz E et al. Communication skills training enhances nurses' ability to respond with empathy to parents' emotions in a neonatal intensive care unit. *Acta Paediatrica*. 2016 Apr;105(4):397–406.
46. Parham D, Reed D, Olicker A et al. Families as educators: a family-centered approach to teaching communication skills to neonatology fellows. *J Perinatol*. 2019 Oct;39(10):1392–8.
47. Wigert H, Dellenmark Blom M, Bry K. Parents' experiences of communication with neonatal intensive-care unit staff: an interview study. *BMC Pediatr*. 2014 Dec 10;14:304.
48. Enke C, Oliva Y, Hausmann A, Miedaner F, Roth B, Woopen C. Communicating with parents in neonatal intensive care units: The impact on parental stress. *Patient Education and Counseling*. 2017 Apr;100(4):710–9.
49. Tsimpri P. *Doctor Patient Communication*. 2018 [cited 2024 Mar 13];
50. Discenza D. Videoconferencing in the NICU. *Neonatal Network*. 2013 Jan 1;32(1):50–1.
51. Ranu J, Sauers-Ford H, Hoffman K. Engaging and supporting families in the Neonatal intensive care unit with telehealth platforms. *Seminars in Perinatology*. 2021 Aug;45(5):151426.
52. Legge AA, Middleton JL, Reid S, Gordon A. Implementation of a Web Camera System in an Australian Neonatal Intensive Care Unit: Pre- and Postevaluation of the Parent and Staff Experience. *JMIR Pediatr Parent*. 2023 Nov 22;6:e47552–e47552.
53. Jones MDJ. Why don't we talk? *Arch Pediatr Adolesc Med*. 2009 Sep;163(9):865–6.

## **FIGURES**



**Figure 1:** Flow diagram of the review

## TABLES

Author, year, reference	Title	Type of article	Sample	Outcome	Results
W.J. Kowalski et al, 2005, (11)	Communicating with parents of premature infants: who is the informant?	pilot study	120 parents but 101 questionnaires	to determine what sources of medical information are most helpful for NICU parents, who provides parents with the medical information and what expectations parents have regarding obtaining clear medical information	Almost all of the parents (96%) felt that 'the medical team gave them the information they needed about their baby' and that the 'neonatologist did a good job of communicating' with them (91%). However, the nurse was chosen as 'the person who spent the most time explaining the baby's condition,' 'the best source of information,' and the person who told them 'about important changes in their baby's condition' (P<0.01).
M. Drago et al, 2020, (12)	How to hold an effective NICU family meeting: capturing parent perspectives to build a more robust framework?	Pilot study	22 families	To record the content and parental perceptions of family meetings in a Neonatal Intensive Care Unit (NICU) and to improve existing frameworks for facilitating these meetings.	Facilitators included use of visual-aids and participation of social workers to clarify information for parents. Barriers included staff rarely eliciting parental comprehension (3 meetings) or concerns before providing new information, resulting in 39% of parents reporting they didn't ask questions they wanted to ask. In 33% of meetings an important participant was absent.
H. Wigert et al, 2013, (13)	Strengths and weaknesses of parent-staff communication in the NICU: a survey assessment	Pilot study	270 parents, 169 children	to describe strengths and weaknesses of parent-nurse and parent-doctor communication in a large level III NICU in Sweden to improve our understanding of parents' communication needs	270 parents (71.4%) completed the survey. Parents generally rated communication with the staff in the NICU positively and appreciated having received emotional support and regular information about their child's care. Although a large majority of the parents were satisfied with their communication with doctors and nurses, only about half of the parents felt the nurses and doctors understood their emotional situation very well. Some parents would have desired easier access to conversations with doctors and wanted medical information to be given directly by doctors rather than by nurses. Parents' communication with the staff was hampered when many different nurses were involved in caring for the infant or when the transfer of information in connection with shift changes or between the maternity ward and NICU was poor. Parents also desired to be present during doctors' rounds on their infant.
W.W. Wreesmann et al, 2020, (14)	The functions of adequate communication in the neonatal care unit: A systematic review and meta-synthesis of qualitative research	Systematic review	43 records	assess the main functions of parent-provider communication in the neonatal (intensive) care unit (NICU) to determine what adequate communication entails according to both parents and health professionals.	43 records were included. Thematic analysis of data resulted in the development of the NICU Communication Framework, including four functions of communication (1. building/maintaining relationships, 2. exchanging information, 3. (sharing) decision-making, 4. enabling parent self-management) and five factors that contribute to adequate communication across these functions (topic, aims, location, route, design) and, thereby, to tailored parent-provider communication.
R.D. Boss et al, 2016, (19)	Family Conferences in the Neonatal ICU: Observation of Communication Dynamics and Contributions	Pilot study	19 conversations	to explore how the professional and family composition of conferences might impact communication processes and content	The child's mother was included in all conferences, and a second parent, usually the father, was present in 13 conferences. All but one conference included multiple medical team members. On average, physicians contributed 65% of all dialogue, regardless of who else was present. Over half (56%) of this dialogue involved giving medical information; under 5% of clinician dialogue involved asking questions of the family, and families rarely (5% of dialogue) asked questions. Conversations were longer with the presence of nonphysician clinicians, but this did not increase the amount of dialogue about psychosocial information or increase parent dialogue.
C. Germana et al, 2022, (20)	Communication in a Neonatal Intensive Care Setting : 10-Step Approach	Opinion article	13 records	10 steps approach to provide a good communication between healthcare professionals and families	10 steps to provide a good communication between healthcare professionals and families : setting, preparation, presentation, listen, empathy, provide information, encouragement, recap and final strategy, show availability, continuity of care
G. Sorin et al, 2020, (21)	How doctors communicated with parents in a neonatal intensive care: Communication and ethical issues	Pilot study	26 newborns, 40 discussions	improve knowledge of the communication strategies used by doctors when they talked to parents	40 discussions carried out between doctors on 26 newborn infants. Five communication strategy themes emerged: building understanding, how the communication was constructed, the role of the doctor, and of the parents, in the overall care of the newborn infant and how the information given to the parents developed over time.
SM. Nimbalkar	Non-verbal Communication in a Neonatal	Pilot study	150 videos	analyse non-verbal communication of medical	The mean (SD) total score on (NIS-O) was 78.96(7.07). Female counselled sessions had significantly higher proportion of low

et al, 2018, (22)	Intensive Care Unit: A Video Audit Using Non-verbal Immediacy Scale (NIS-O)			caregivers during counselling sessions in their unit	scores ( $p < 0.001$ ). No video revealed high score. Overall 67(44.67%) sessions revealed low total score.
J. Pirrello et al, 2022, (23)	Analysis of communication and logistic processes in neonatal intensive care unit	Pilot study	48 conversations	assess the dimensions and dynamic processes of critical care communications in neonatal intensive care to enhance the development of theoretical and applied knowledge of these discussions	five themes in the analysis of communication: (a) critical care, (b) establishing the doctor-patient relationship, (c) assistance in decision making, (d) Socio-affective and (e) socio-symbolic dimensions. Our recordings underscored both the necessity of communication skills and the obligation to communicate effectively. Analysis of the dynamics of the communication process, according to the categories of delivering difficult information, showed few significant differences
Kim et al, 2014, (25)	Informing and educating parents about the risks and outcomes of prematurity	literature review	43 records	to improve the provision of information to parents	Current process of educating parents is suboptimal mostly because of modifiable factor Proven methods to educate and inform parents are underused. Effective parent-clinician communication depends collectively on parents, clinicians, and the health care systems. Efforts must focus on improving communication and not on decreasing information provided to parents
R. Winters et al, 2021, (26)	Words matter: exploring communication between parents and neonatologists	Pilot study	72 participant / 13 parents, 6 neonatologists	to compare the perceptions of communication and language use between neonatologists and parents to develop targeted interventions to improve communication between neonatologists and parents in the NICU.	A total of 72 participants responded to the online survey. Parents ranked the invasiveness of common NICU clinical procedures differently than the neonatologist standard but assessed the quality of the simulated conversation similarly. A total of 13 parents and 6 physicians participated in the focus groups. Major themes from both neonatologist and parent focus groups were the impact of making a connection with the parents, the importance of making decisions yet not making assumptions based on the divergent use of language by neonatologists and parents, and providing hope.

**Table 1:** articles included in basic skills of good communication

Author, year, reference	Title	Type of article	Sample	Outcome	Results
S. Farley et al, 2022, (27)	Role of Social Workers in Family Conferences for Critically Ill Infants	Pilot study	68 conferences	to characterize the extent and nature of social worker participation in family conferences for critically ill infants	Sixty-eight conferences were held and audio recorded for 24 infants. Social workers were present for 51 of these conferences ( $n = 51/68, 75\%$ ) across 18 cases ( $n = 18/24, 75\%$ ). We identified four themes, conceptualized as distinct roles played by social workers in family conferences: (1) Translator, (2) Coordinator, (3) Expectation manager and (4) Advocate
C. Seifart et al, 2022, (28)	NEO-SPEAK: A conceptual framework that underpins breaking bad news in neonatology	Pilot study	17 consultants	identify determinants that are important for successful managing breaking bad news in neonatology from professionals' perspective to develop a conceptual framework that underpins this challenging task	Eight determinants of breaking bad news in neonatology could be identified from the interviews. From these, we developed the conceptual framework NEO-SPEAK
A. Biasini et al, 2012, (29)	Communication in the neonatal intensive care unit: a continuous challenge	Pilot study	8 families	to confirm that a good relationship with families can be obtained if all the healthcare team adopts a good common communication scheme	The test showed that in 75% of cases, satisfaction with communication was very good and in the remaining 25%, parents perceived communication as good, but improvable.
K.G. Menghini, 2005, (30)	designing and evaluating parent educational materials	Opinion article		to provide a systematic step-by-step approach to evaluating current written educational tool to develop a conceptual framework that underpins this challenging task	Understanding the impact of low literacy on parents' ability to read and understand health education materials enables neonatal nurses to select and develop appropriate written educational tools. By adopting the strategies presented, effective teaching tools can be identified and/or created. Sensitivity to cultural needs is an important part of tool development. Involving parents in both the creation and review process will ensure the tools meet the needs of the population they are created for.
M. E. Lemmon et al, 2018, (31)	No question too small: development of a question prompt list for parents of critically ill infants	Pilot study	39 families	To develop a question prompt list tailored to the needs of parents of critically ill infants at risk of neurodevelopmental impairment and pilot content acceptability with clinicians and parents of critically ill infant	the QPL items : Being a NICU parent, Communicating with the medical team, Making decisions with the medical team, the big picture, Preparing for life at home, infant development, Specific conditions ; s, clinicians had a generally favourable view of the QPL, simplify some items ; Clinicians universally found the tool acceptable and all would recommend the QPL to parents, Families universally found the tool acceptable, and all reported they would use the QPL in a family meeting
M.S. Hesham et al, 2015, (32)	Impact of a health education tool on enhancing communication	Pilot study	100 fathers	evaluate the influence of using a family information guide about the NICU as a communication intervention	After using the guide, fathers showed significant improvement in their knowledge, with a change in their feelings towards the admission of their neonates to the NICU.

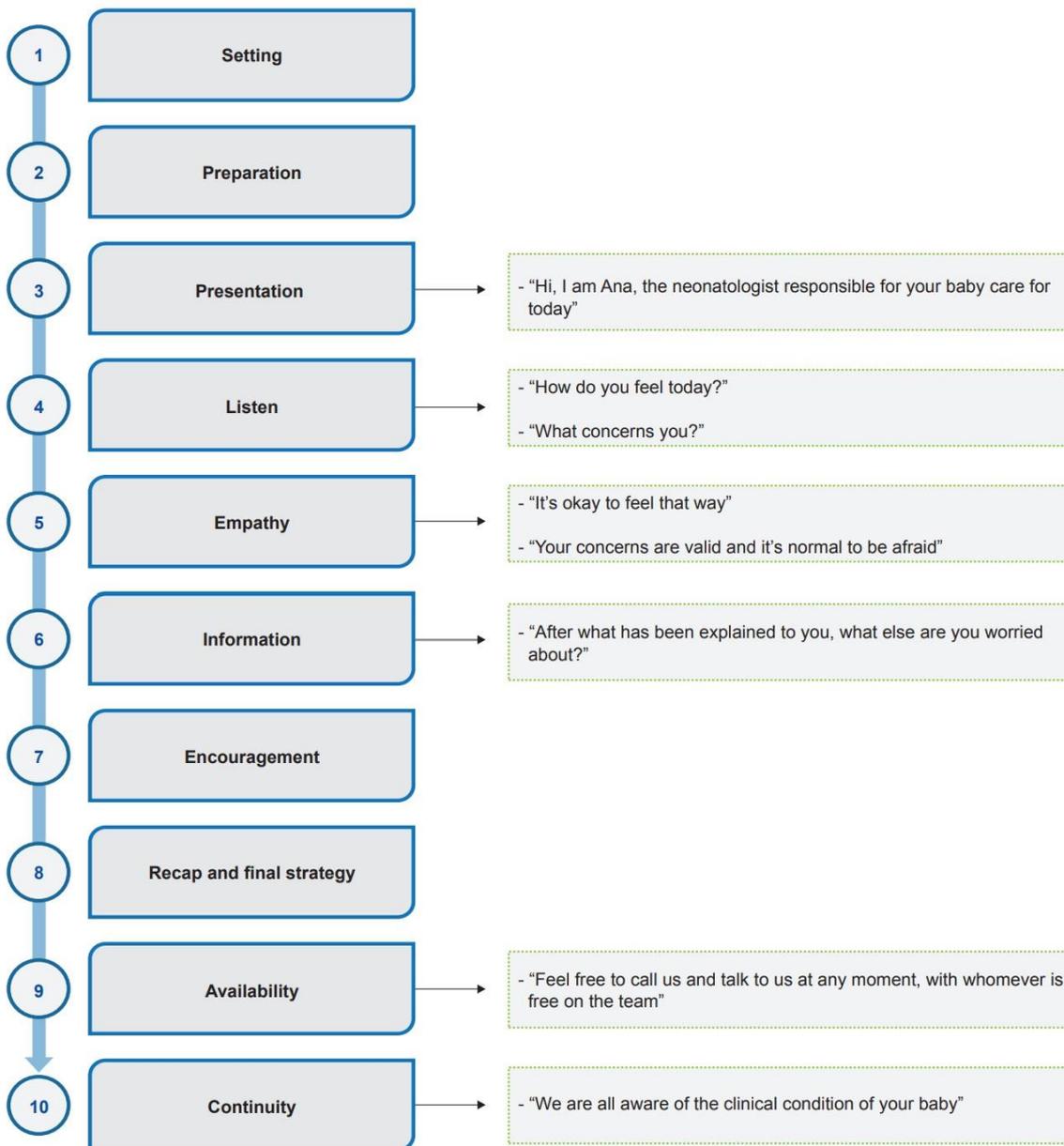
	between health providers and parents of neonates in intensive care in Egypt			between the healthcare providers and parents having their infants in the unit	
E.G. Epstein et al, 2015, (33)	Testing the Feasibility of Skype and FaceTime Updates With Parents in the Neonatal Intensive Care Unit	Pilot study	25 parents enrolled but 15 at least	evaluate the acceptability and feasibility of using daily Skype or FaceTime updates for parents and assess the intervention's potential for improving parent-provider relationships.	Twenty-six parents were enrolled and 15 completed the study. More than 90% of providers and parents perceived the intervention to be reliable and easy to use, and about 80% of parents and providers rated video and audio quality as either excellent or good. Frozen screens and missed updates due to scheduling problems were challenges. Two of the 4 sub scores on the Parents' Understanding survey improved significantly. Qualitative data favour the intervention as meaningful for parents.
O Globus et al, 2016, (34)	The use of short message services (SMS) to provide medical updating to parents in the NICU	Survey study	91/87 parents, 27/36 nurses	evaluate the use of SMS technology and assess its impact on the parents and the nursing staff.	Comparison of the parents' responses at the two time periods indicated that in the post-SMSi time period, they felt that the physician was more available when needed (P = 0.002), they were more comfortable about approaching the physician (P = 0.001) and more satisfied with the medical information provided by the staff (P = 0.03). In the post-SMSi period, 78.1% of the nurses noted that the SMS communication is a convenient and user-friendly method.
M.A. Palau et al, 2018, (35)	The impact of parental primary language on communication in the neonatal intensive care unit	Pilot study	132 parents	Compare parental understanding of their hospitalized infant's primary diagnosis between English and Spanish speakers and assess the association between parental primary language and self-reported understanding of NICU interventions; and Assess the modes of communication utilized by NICU providers in communicating with Spanish-speaking parents	Spanish-speaking parents were four times (RR 4.0, 95% CI: 1.5, 11.0; p = 0.004) more likely to incorrectly identify their child's diagnosis than English-speaking parents. Spanish speakers also self-reported lower understanding of NICU interventions. Physicians provided updates to Spanish-speaking parents in their native language only 39% of the time.
S. Munoz-Blanco et al, 2021, (36)	Developing an audio-based communication tool for NICU discharge of Latino families with limited English proficiency	Pilot study	38 providers, 29 parents	explore barriers to effective hospital-to-home transition for NICU Latino parents LEP and design a comprehensive QPL that included the perspectives of parents and healthcare providers, from both NICU and paediatric primary care; and test its acceptability with parents and providers.	Provider focus groups (n = 27) and parent interviews (n = 19) identified themes: decreased parent activation, knowledge gaps, limited-use interpreters, unfamiliarity with healthcare system, and social isolation as barriers to smooth NICU-to-home transition. Providers (n = 11) and parents (n = 10) favoured QPL introduction early in NICU admission, finding it useful to improve communication and transition processes for families.
N.M; Kynoe et al, 2020, (37)	When a common language is missing: Nurse-mother communication in the NICU. A qualitative study	Pilot study	8 mothers, 8 nurses	To explore how communication in neonatal intensive care units (NICUs) between immigrant mothers and nurses take place without having a common language and how these mothers experience their NICU stay	Interpreters were present during the consultations with the physicians, but rarely during the daily nurse-mother interactions. Nurses focused on daily routines, infant care guidance and mother-infant attachment. The mothers learned through demonstrations and hands-on guidance. Language barriers made it difficult to assess the mothers' understanding, but the mothers expressed that they felt adequately included in the care of their infant and well informed and guided. Even so, both mothers and nurses expressed desire to use interpreters more regularly. The pictorial communication boards available lacked important vocabulary needed in neonatal nursing contexts and their use furthermore interrupted the mother-nurse conversation.
K. Patriksson et al, 2019, (38)	Conditions for communication between health care professionals and parents on a neonatal ward in the presence of language barriers	Pilot study	10 parents, 10 health care professionals	to describe communication between neonatal health care professionals and parents in the presence of language barriers	The main theme, endeavouring to understand the meaning behind the words, comprised three themes. Wanting to speak for oneself meant that parents wanted to speak for themselves or call on a friend or multilingual health care professionals, in contrast to the health care professionals wish to use an interpreter. Being aware of cultural keys meant that some wards had access to a "cultural broker" to assist health care professionals and parents with both language translation and understanding of the Swedish health care environment.
L. Merritt, 2013, (39)	Communicating with Chinese American Families in the NICU Using the Giger and Davidhizar Transcultural Model	Opinion article	26 records	how NICU nurses can communicate with one such culture, the Chinese American, the largest Asian group in the United States, a transcultural nursing model will be described to use as a guide to help the nurse	Using a transcultural nursing assessment model, the nurse can provide culturally competent care to parents of Chinese descent and other cultures to communicate effectively. By doing this, nurses can facilitate parents' adaptation to the NICU so they can become active participants in their infant's care and assume their parental role in caring for the infant.

**Table 2:** articles included in tools and means of strengthening communication

Author, year, reference	Title	Type of article	Sample	Outcome	Results
A. Coscia et al, 2010, (40)	Communicative strategies in a neonatal intensive care unit	review	10 records	to let counselling become a 'shared culture' for all the care givers	The counsellor's intervention allows a better parent orientation in the situation. A more effective sharing of these rules also facilitates the communication among parents and medical staff.
A. Coscia et al, 2012, (41)	communication in NICUs	review	6 articles		Counselling should be a 'shared culture' for all the care givers: it should be developed by all the professionals, to face up to parents' needs of information, explanations, facility of decisions, finding of resources, agreement, help, reassurance, attention. Counselling is also a tool to face some critical issue, such as the decision to open the department to parents 24 h on 24, or the promotion of mother's milk use in Very Low Birth Weight Infants
B.E. Lechner et al, 2015, (42)	Seeking the best training model for difficult conversations in neonatology	Pilot study	25 fellows	assess the effect of a targeted "Difficult Conversations" Communication Simulation Training Curriculum on neonatal-perinatal fellow education.	Self-rated baseline effectiveness at discussing difficult topics was not different. The simulation group reported more supervised family meetings and feedback after fellow-led meetings. Simulations were rated very positively. The simulation group reported increased comfort levels. Strategic pause and body positioning were specific communication skills more frequently acquired in the simulation group. In both groups, the highest ranked contributors to learning were mentor observation and clinical practice. In the simulation group, simulation and debriefing outranked didactics or other experiences.
R.D. Boss et al, 2013, (43)	Neonatal Critical Care Communication (NC3): training NICU physicians and nurse practitioners	Survey study	13 participants	the impact of an intensive interprofessional communication training for neonatology fellows and nurse practitioners.	Five neonatology fellows and eight nurse practitioners participated (n = 13). Before the training, participants overall felt somewhat prepared (2.6 on 5 point Likert-type scale) to engage in core communication challenges; afterwards, participants overall felt very well prepared (4.5 on Likert-type scale) (P<0.05). One month later, participants reported frequently practicing the taught skills and felt quite willing to engage in difficult conversations.
K. Kasat et al, 2020, (44)	Improving communication with parents: the Neonatal Intensive Care Unit Empathy Workshop	Pilot study	109 providers, 127 parents	implement an "Empathy Workshop" focused on improving Neonatal Intensive Care Unit (NICU) health care provider communication skills	Parent survey scores significantly improved in two questions: referring to child by first name (p = 0.02) and being offered emotional support from the staff (p = 0.03) or information on parent support groups (p = 0.03). Fifty-seven NICU providers completed all three self-assessments. Following the workshop, providers were significantly more comfortable with daily communication, discussing end of life issues, managing anxiety around difficult conversations, and handling a combative situation.
K. Bry et al, 2015, (45)	Communication skills training enhances nurses' ability to respond with empathy to parents' emotions in a neonatal intensive care unit	Pilot study	13 nurse, 36 and 45 nurse-parent encounters audio recorded	whether an interactive course in communication skills influenced the content of nurse-parent interactions and the ability of the nurses to respond to the empathic needs of parents	Both before and after the course, the nurses talked more than the parents during the conversations. This nurse-centredness decreased after the course. The use of empathic or exploring responses to empathic opportunities increased from 19.9 +/- 9.0% to 53.8 +/- 8.9% (p = 0.027), whereas ignoring the feelings of the parents or giving inadequate advice decreased from 63.0 +/- 10.0% to 27.5 +/- 8.4% (p = 0.043) after the course. Use of statements expressing caring for the parents and encouragement for parents to participate in the care of their infant increased after the course (p = 0.0034 and p = 0.043, respectively). The nurses felt the course was very useful for their profession.
D. Parham et al, 2019, (46)	Families as educators: a family-centred approach to teaching communication skills to neonatology fellows	Pilot study	17 fellows	To determine whether the use of family members as educators in a structured educational intervention would increase neonatology fellows' confidence in performing core communication skills targeted to guide family decisionmaking	For each core competency assessed, there was a statistically significant increase in self-perceived preparedness from pre-course to post-course assessments. Fellows additionally endorsed using skills learned in the curriculum in daily clinical practice. Family educators rated fellow communication highest in empathetic listening and nonverbal communication.

**Table 3:** articles included in learning communication

## SUPPLEMENTARY MATERIALS



**Supplementary material 1:** 10 step approach on communication in neonatal intensive care unit developed by Germana

**DIRECTIONS:** The following statements describe the ways some people behave while talking with or to others. Please indicate in the space at the left of each item the degree to which you believe the statement applies to (fill in the target person's name or description). Please use the following 5-point scale:

1 = Never; 2 = Rarely; 3 = Occasionally; 4 = Often; 5 = Very Often

- \_\_\_\_\_ 1. He/she uses her/his hands and arms to gesture while talking to people.
- \_\_\_\_\_ 2. He/she touches others on the shoulder or arm while talking to them.
- \_\_\_\_\_ 3. He/she uses a monotone or dull voice while talking to people.
- \_\_\_\_\_ 4. He/she looks over or away from others while talking to them.
- \_\_\_\_\_ 5. He/she moves away from others when they touch me while we are talking.
- \_\_\_\_\_ 6. He/she has a relaxed body position when he/she talks to people.
- \_\_\_\_\_ 7. He/she frowns while talking to people.
- \_\_\_\_\_ 8. He/she avoids eye contact while talking to people.
- \_\_\_\_\_ 9. He/she has a tense body position while talking to people.
- \_\_\_\_\_ 10. He/she sits close or stands close to people while talking with them.
- \_\_\_\_\_ 11. Her/his voice is monotonous or dull when he/she talks to people.
- \_\_\_\_\_ 12. He/she uses a variety of vocal expressions when he/she talks to people.
- \_\_\_\_\_ 13. He/she gestures when he/she talks to people.
- \_\_\_\_\_ 14. He/she is animated when he/she talk to people.
- \_\_\_\_\_ 15. He/she has a bland facial expression when he/she talks to people.
- \_\_\_\_\_ 16. He/she moves closer to people when he/she talks to them.
- \_\_\_\_\_ 17. He/she looks directly at people while talking to them.
- \_\_\_\_\_ 18. He/she is stiff when he/she talks to people.
- \_\_\_\_\_ 19. He/she has a lot of vocal variety when he/she talks to people.
- \_\_\_\_\_ 20. He/she avoids gesturing while he/she is talking to people.
- \_\_\_\_\_ 21. He/she leans toward people when he/she talks to them.
- \_\_\_\_\_ 22. He/she maintains eye contact with people when he/she talks to them.
- \_\_\_\_\_ 23. He/she tries not to sit or stand close to people when he/she talks with them.
- \_\_\_\_\_ 24. He/she leans away from people when he/she talks to them.
- \_\_\_\_\_ 25. He/she smiles when he/she talks to people.
- \_\_\_\_\_ 26. He/she avoids touching people when he/she talks to them.

Scoring for NIS-O:

Step 1. Start with a score of 78. Add the scores from the following items:

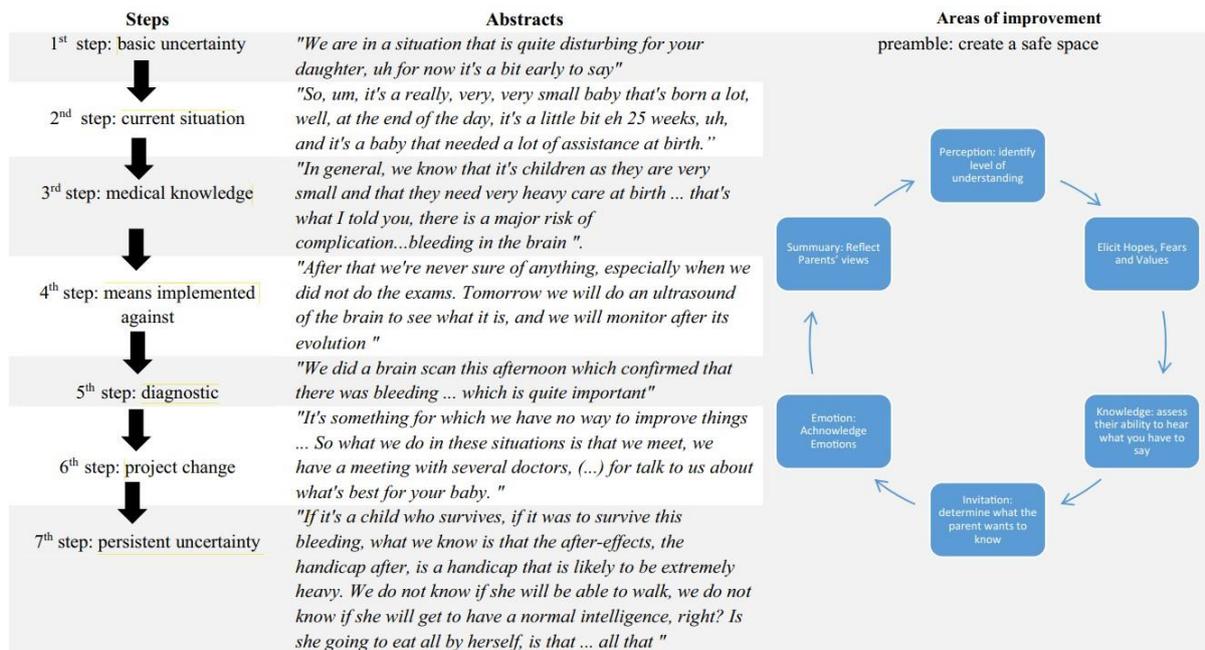
1, 2, 6, 10, 12, 13, 14, 16, 17, 19, 21, 22, and 25.

Step 2. Add the scores from the following items:

3, 4, 5, 7, 8, 9, 11, 15, 18, 20, 23, 24, and 26.

Total Score = Step 1 minus Step 2.

**Supplementary material 2:** NonVerbal Immediacy Scale-Observer Report (NIS-O) used in Nimbalkar *et al* study



**Supplementary material 3:** Example of the construction of information progressivity (Background: birth at 25SA + 4days, 625 g, premature rupture of membranes, diagnosis of intraventricular and parenchymal haemorrhage stage 4) made by Sorin *et al*

Category	Sample question
Being a NICU parent	What is the best way for me to participate when the team makes the plan for the day (rounds)?
Communicating with the medical team	Who are the core members of my baby's medical team?
Making decisions with the medical team	Are there any decisions that we need to make with the medical team for our baby?
The big picture	Can you give me a timeline of the important things that have happened with my baby?
Preparing for life at home	What kinds of day-to-day challenges might I have when I take my baby home?
Infant development	Is there anything I can do now to help my baby's development?
Condition-specific categories	
Seizures	How will I know if my baby is having a seizure?
Therapeutic hypothermia ("cooling")	Why is my baby being cooled?
Gastrostomy tube (G-tube)	What will I need to do at home to take care of the feeding tube?
Ventriculoperitoneal or subgaleal shunt	What are signs that my baby's shunt is not working properly?

**Supplementary material 4:** example of the Question Prompt List developed by Lemmon *et al*

## SERMENT D'HIPPOCRATE

# Le serment d'Hippocrate

Texte revu par l'Ordre des médecins en 2012

“ **Au moment d'être admis(e) à exercer la médecine, je promets et je jure d'être fidèle aux lois de l'honneur et de la probité.**

Mon premier souci sera de rétablir, de préserver ou de promouvoir la santé dans tous ses éléments, physiques et mentaux, individuels et sociaux.

Je respecterai toutes les personnes, leur autonomie et leur volonté, sans aucune discrimination selon leur état ou leurs convictions. J'interviendrai pour les protéger si elles sont affaiblies, vulnérables ou menacées dans leur intégrité ou leur dignité. Même sous la contrainte, je ne ferai pas usage de mes connaissances contre les lois de l'humanité.

J'informerai les patients des décisions envisagées, de leurs raisons et de leurs conséquences.

Je ne tromperai jamais leur confiance et n'exploiterai pas le pouvoir hérité des circonstances pour forcer les consciences.

Je donnerai mes soins à l'indigent et à quiconque me les demandera. Je ne me laisserai pas influencer par la soif du gain ou la recherche de la gloire.

Admis(e) dans l'intimité des personnes, je tairai les secrets qui me seront confiés. Reçu(e) à l'intérieur des maisons, je respecterai les secrets des foyers et ma conduite ne servira pas à corrompre les mœurs.

Je ferai tout pour soulager les souffrances. Je ne prolongerai pas abusivement les agonies. Je ne provoquerai jamais la mort délibérément.

Je préserverai l'indépendance nécessaire à l'accomplissement de ma mission. Je n'entreprendrai rien qui dépasse mes compétences. Je les entretiendrai et les perfectionnerai pour assurer au mieux les services qui me seront demandés.

J'apporterai mon aide à mes confrères ainsi qu'à leurs familles dans l'adversité. Que les hommes et mes confrères m'accordent leur estime si je suis fidèle à mes promesses ; que je sois déshonoré(e) et méprisé(e) si j'y manque. ”