



# Need and benefit of communication training for NICU nurses

Anna Bry<sup>a,c,\*</sup>, Helena Wigert<sup>a,c</sup>, Kristina Bry<sup>b,c</sup>

<sup>a</sup> Institute of Health and Care Sciences, Sahlgrenska Academy, University of Gothenburg, Arvid Wallgrens Backe, 413 46 Gothenburg, Sweden

<sup>b</sup> Department of Pediatrics, Institute of Clinical Sciences, Sahlgrenska Academy, University of Gothenburg, Queen Silvia Children's Hospital, 416 85 Gothenburg, Sweden

<sup>c</sup> Division of Neonatology, Sahlgrenska University Hospital, Diagnosvägen 15, 416 50 Gothenburg, Sweden

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## ABSTRACT

**Objectives:** To assess the effects of a new communication course for neonatal intensive care unit (NICU) nurses on nurses' confidence in communicating with families, and to explore communication-related issues experienced by the nurses and their relationship to burnout.

**Study design:** Twenty-nine nurses participated in an interactive course based on communication cases from the NICU. Participants' experience of communication with parents was assessed. They completed the Maslach Burnout Inventory. Self-reported communication skills were assessed before and after the course and at four-month follow-up.

**Results:** Only one nurse reported previous nursing-related communication training. High burnout scores were associated with communication-related difficulties, especially lack of time for communication. The course improved participants' confidence in their communication skills in challenging situations, including those where parents express distress or ask questions the nurse cannot answer. Participants found the course highly interesting, useful and necessary for their work.

**Conclusion:** Interactive, learner-centered training addressing issues specific to communication at the NICU was effective and highly appreciated.

**Innovation:** The course centered on a unique variety of reality-based communication cases from the NICU, relevant to the nurses' work and stimulating their reflection. An innovative feature was the emphasis on nurses' perspective and the importance of communication for their coping.

## 1. Introduction

Nurses working in the neonatal intensive care unit (NICU) perform a complex and demanding job. They take care of premature or otherwise ill newborn infants whose medical condition is often unstable and who therefore need constant observation and frequent nursing interventions. In addition, the nurses teach parents how to take care of their infant and how to interpret the infant's behavior and needs, and encourage them to be active in caring for their infant. Most parents are totally unprepared for the birth of a preterm or seriously ill infant, and many experience anxiety or depression, sometimes to an overwhelming degree, during the stressful time of their infant's hospitalization [1]. For parents to cope with their difficult situation, it is crucial that NICU nursing staff listen to the parents, answer their questions, and provide emotional support [2,3]. Communication with health care providers is a critical determinant of how NICU parents cope with their situation [4]. Improving communication with families is a priority of modern family-centered neonatal care [5]. Communication training

for providers has been recommended as an element of family-centered neonatal care, to improve clinicians' self-efficacy and families' satisfaction [5].

Although neonatologists have an important role in providing medical information to the parents, parents perceive the nurse as the person who devotes the most time to explaining the infant's condition and the primary source of information at the NICU [6]. Although communication is a key part of their work, many nurses feel that they lack adequate skills to communicate with distressed and anxious parents [7].

The emotional toll of working in the NICU on nurses themselves can be considerable but may be insufficiently recognized [8,9]. Constant interactions with parents, with their diverse situations and needs, can be both a satisfaction and a strain for nurses [10]. In Sweden, these interactions are particularly frequent since both parents have parental leave during the hospitalization of their newborn infant, allowing them to maximize the amount of time they spend with their infant in the NICU.

Effective communication between nursing staff and families is needed not only for parental satisfaction but also for the sake of nurses' own coping.

Abbreviations: MBI-HSS, Maslach Burnout Inventory, Human Services Survey; NA, nursing assistant; NICU, neonatal intensive care unit; RN, registered nurse; VAS, visual analogue scale.

\* Corresponding author at: Welandergatan 36, 41656 Gothenburg, Sweden.

E-mail addresses: [annakrisbry@gmail.com](mailto:annakrisbry@gmail.com) (A. Bry), [helena.wigert@fhs.gu.se](mailto:helena.wigert@fhs.gu.se) (H. Wigert), [kristina.bry@pediat.gu.se](mailto:kristina.bry@pediat.gu.se) (K. Bry).

Lack of confidence in their own communication skills and a sense of inadequacy or anxiety in the face of difficult communication situations may increase the stressfulness of nurses' work and contribute to burnout [11,12]. Challenging communication situations in the NICU can often arise spontaneously and without warning. For example, nurses may find it difficult to know what to say or how to help when parents' emotional distress comes to the surface. But responding to parents' information needs can also be challenging for nurses, in particular where parents expect answers to questions that nurses do not feel competent to answer. Seemingly minor communication failures can be significantly detrimental to parents' experience of the NICU and their relation to staff [2,3]. Conversely, if nurses are well prepared for challenging communication situations and respond adequately, this can pave the way for positive relationships between parents and staff and continuing effective communication during the infant's NICU stay.

We have previously shown that a brief communication training intervention can enhance NICU nurses' ability to respond to parents' emotions empathically [13]. For the present study, we have created a more extensive communication course designed to provide nurses with an understanding of basic principles of communication relevant to their work, including possible pitfalls in communication, as well as with tools for dealing with a variety of common communication situations in the NICU. This course is practically oriented and built around interactive discussion of communication cases. The intent of the course is to help nurses meet parents' communication needs while also emphasizing the importance of functional communication with parents for improving nurses' own work situation.

The objectives of the present study were [1] to assess the effects of the course on the confidence of NICU nursing staff in their skills in communicating with parents and [2] to explore the nurses' perceptions of the stress and satisfaction associated with this part of their work and the association of communication-related issues with indications of burnout in the nurses.

## 2. Methods

### 2.1. Participants

The participants were registered nurses (RNs) and nursing assistants (NAs) working at five different NICUs in the county of Västra Götaland in western Sweden. Two of the units were level III NICUs, and three were level II nurseries.

Of the participants, seven RNs and nine NAs signed up for the communication course as a stand-alone course, while thirteen RNs were offered the communication course in conjunction with a course in neonatology for nurses, which they had applied for earlier and which took place on the same days as the communication course but was not taught by the same teachers.

### 2.2. Structure and content of the course

The course consisted of four three-hour workshops in small groups of 5–8 participants. Sessions were led by a neonatologist and a psychologist. Basic communication principles and techniques were presented, including complicating factors and possible pitfalls specific to communication in the NICU context. The bulk of the course consisted of interactive small-group discussions of twenty reality-based communication cases, presented in the form of dialogues between parents and NICU staff. These cases exemplified a wide variety of concerns, expressions of emotion and communication styles on the parents' part. For context, each case included information about the patient's medical condition. Participants discussed the responses of the staff member depicted in each case and suggested alternatives, reflecting on the pros and cons of various ways of dealing with the communication situation presented. In order to activate all participants and illustrate the diversity of possible approaches to a situation, they first discussed the cases in pairs and then with the whole group, including leaders.

The course included four modules addressing the following areas:

1. *Communicating information in the NICU*: Finding out what the parent knows, what he/she wants to know and needs to know; transmitting clear, relevant information; paying attention to one's wording so as not to cause undue anxiety.
2. *Different messages in one and the same statement*: Awareness of how multiple messages and interpretations can be present in seemingly simple communication; non-verbal communication.
3. *Dealing with emotionally charged situations*: How to listen actively, explore and respond empathically to parents' need of emotional support; taking care of oneself when exposed to parents' emotional distress and accepting one's own limitations.
4. *The professional relationship between staff and families*: The professional therapeutic relationship as a middle ground between underinvolvement and overinvolvement; dealing with situations where maintaining a professional relationship is challenging.

### 2.3. Study design

A pre–post study design was used. Questionnaires were administered immediately before and after the course, as well as at follow-up four months after completion of the course. Data collection took place in 2021.

Participants were asked to state their profession, years of experience of nursing in any context and in the NICU context specifically, and what if any previous communication training they had had.

Prior to the course, the nurses completed the Maslach Burnout Inventory, Human Services Survey (MBI-HSS) [14], the most widely used and studied instrument for studying burnout, particularly in the health care professions [15]. The MBI-HSS yields scores on three subscales: Emotional Exhaustion, Cynicism and Professional Inefficacy. Participants also responded to several questions, on a visual analogue scale (VAS), about their feelings and attitudes towards communication with families at the NICU.

Before the course, the nurses reported how confident they were of their ability to deal with various types of communication situations occurring in the NICU, on a questionnaire with questions on a visual analogue scale from 0 to 10. This questionnaire was repeated at the end of the course and four months after the course.

After the course, participants were also asked a number of questions to evaluate the helpfulness of the course in various areas of communication and its overall usefulness and interest. Participants were also asked to respond in their own words to the following questions: “What have you learned on this course that feels important to you?” and “Do you have any other comments?”

Paper questionnaires were used. Each participant chose a personal pseudonym and used it to label each questionnaire. Data were thus anonymous.

### 2.4. Data analysis

#### 2.4.1. Quantitative data

To analyze relationships between burnout scores and baseline data on participants' experiences of communication at work, Pearson's correlation analysis [16] was used. To compare self-reported communication skill scores before and after the course as well as before the course and at follow-up, the Wilcoxon signed-rank test (two-sided) [17] was used. Descriptive statistics were used to analyze other questionnaire data. Statistical analyses were performed in IBM SPSS Statistics [18]. Statistical significance was set at  $p < 0.05$  for all analyses.

#### 2.4.2. Qualitative data

Content analysis [19] was performed whereby participants' freely worded comments were sorted into categories according to similarity of content. Categories were labeled with names summarizing their content. The first and third authors collaborated in the process of creating, refining and naming categories.

**Table 1**

Baseline questions about communication in the NICU.

Item	Mean (SD)
answered on a VAS from 0 (Completely disagree) to 10 (Completely agree)	<i>N</i> = 29
It's hard in my job to find enough time to talk to parents	7.4 (2.0)
I tend to brood over conversations I have had with parents	5.2 (2.8)
I often find conversations with parents stressful	3.3 (2.5)
I have a good ability to deal with my own emotional reactions to things that happen at work	6.0 (2.7)
I think communication is a very important part of my job	9.4 (0.72)
Communicating with parents is a part of my job that I enjoy	8.4 (1.3)

**Table 2**

Participants' scores on MBI subscales.

	Emotional exhaustion (N)	Cynicism (N)	Professional Inefficacy (N)
High	11	5	11
Moderate	5	5	11
Low	13	19	7

### 3. Results

Twenty RNs and nine NAs participated in the study. Their experience of nursing (in any context) ranged from 1.3 to 46 years (mean 15.0 years, median 10.0 years), while their experience of NICU nursing ranged from one to 46 years (mean 6.5 years, median 3.8 years). The nursing assistants had significantly more experience in nursing in general (mean 22.8 years for NAs and 11.4 years for RNs,  $p = 0.031$ ), but not in NICU nursing ( $p = 0.60$ ).

Only three of the participants (10.3%), all RNs, reported having any previous training in communication. In only one case (3.4%) had this training taken place in a health care context.

#### 3.1. Experience of and attitudes towards communication in the NICU

Several questions at baseline addressed participants' general experience of and attitude towards communicating with parents, on a scale from 0 to 10. Results are shown in Table 1. Notably, participants overwhelmingly agreed that communication was a very important part of their job and one that they enjoyed, but felt it was hard to find enough time for communicating with parents.

#### 3.2. Burnout

The Maslach Burnout Inventory (MBI) measures work-related burnout using three subscales: Emotional Exhaustion, Cynicism and Professional Inefficacy. The Emotional Exhaustion subscale measures loss of energy, depletion and fatigue. The Cynicism subscale indicates a sense of

detachment from the job and negative attitudes. The Professional Inefficacy subscale measures a sense of reduced capability or inability to cope [20,21].

Standard cutoffs for high, moderate and low scores on each subscale were used [15]. Results are shown in Table 2. Over a third of participants (37.9%) scored high on Emotional Exhaustion, and the same number scored high on Professional inefficacy. Only five participants (17.2%) scored high on Cynicism, while nineteen (65.5%) had a low score on this subscale. Degree of experience of nursing in general or of NICU nursing specifically was not significantly correlated with scores on any subscale of the MBI.

Emotional Exhaustion scores were significantly positively correlated with a tendency to brood over conversations with parents afterwards ( $r = 0.469$ ,  $p = 0.006$ ) and to find these conversations stressful ( $r = 0.448$ ,  $p = 0.015$ ) as well as with the feeling of having too little time for communicating with parents ( $r = 0.604$ ,  $p = 0.001$ ). Emotional Exhaustion was negatively correlated with participants' assessment of their ability to deal with their own emotions regarding work-related matters ( $r = -0.475$ ,  $p = 0.009$ ).

Cynicism scores were significantly correlated with often finding conversations with parents stressful ( $r = 0.404$ ,  $p = 0.03$ ), while Professional Inefficacy was negatively correlated with enjoyment of communicating with parents ( $r = -0.639$ ,  $p < 0.001$ ).

#### 3.3. Communication skills

Before and immediately after the course, as well as at follow-up four months later, participants rated their own skill in dealing with a variety of communication situations occurring in the NICU before and after the course, on a visual analogue scale. All the participants completed the questionnaire before and after the course. Twenty-one participants (72.4%) completed the follow-up questionnaire. Data are shown in Table 3.

No correlation was found between participants' self-reported communication skills at baseline and their degree of experience of nursing in general or of NICU nursing.

After the course, participants reported a significantly more positive assessment of their general skills in dealing with communication situations in the NICU; their ability to deal with questions from parents that they did not know the answer to; knowing what to say to parents who were sad; knowing how to respond to parents who expressed strong emotions; and ability to encourage parents to express themselves when needed. In each case where improvement occurred, the improvement was maintained at follow-up after four months (data shown in Table 3).

#### 3.4. Course evaluation

Participants were asked to evaluate whether they had found the course helpful regarding a number of specific areas of communication. These questions were in a yes/no/don't know format. Data are shown in Table 4. In each case, the great majority of participants found the course content helpful and reported that the course had been helpful to them in the area of

**Table 3**

Effect of the course on participants' self-assessed communication skills.

Item	Before course Mean (SD) <i>N</i> = 29	After course Mean (SD) <i>N</i> = 29	4-month follow-up Mean (SD) <i>N</i> = 21	<i>p</i> (pre–post)	<i>p</i> (pre–follow-up)
answered on a VAS from 0 (Disagree completely) to 10 (Agree completely)					
I have the skills needed to deal with most communication situations that can occur with parents at the unit	5.6 (1.9)	7.8 (1.5)	7.9 (1.0)	<0.001	<0.001
In general, I have a good ability to deal with situations where parents ask questions I don't know the answer to	6.5 (1.9)	8.2 (1.0)	8.3 (1.3)	<0.001	<0.001
When parents at the unit express strong feelings, I know how to respond to them	5.4 (1.9)	7.1 (1.8)	6.8 (1.7)	<0.001	0.002
It's hard for me to know what to say to parents who are sad	5.7 (2.6)	3.7 (3.0)	3.9 (2.6)	0.002	0.003
It's hard for me to know what to say to parents who are very anxious	5.3 (2.4)	5.1 (3.1)	4.6 (3.2)	1	0.81
It's hard for me to know what to say to parents who are angry	5.8 (2.6)	5.0 (2.9)	4.5 (3.0)	0.211	0.044
I have a good ability to encourage parents to express themselves when they appear to need it	6.1 (1.9)	7.5 (1.7)	7.2 (1.7)	0.001	0.046

**Table 4**  
Participants' evaluations of the helpfulness of the course.

Item	Yes (after course) (%)	No (after course) (%)	Don't know (after course)(%)	Yes (follow-up) (%)	No (follow-up) (%)	Don't know (follow-up)(%)
I can use what I have learned to deal with different communication situations at the NICU	100	0	0	100	0	0
After the course I feel better prepared to deal with questions I don't know the answer to	93.1	3.4	3.4	90.5	4.8	4.8
The course made me better prepared to respond to parents who express strong emotions	86.2	6.9	6.9	76.2	0	23.8
After the course I feel better prepared to respond to parents who are sad	96.6	0	3.4	90.5	0	9.5
After the course I feel better prepared to respond to parents who are anxious	100	0	0	95.2	0	4.8
After the course I feel better prepared to respond to parents who are angry	82.8	0	17.2	57.1	0	42.8
The course made me feel better prepared to communicate information to parents in an appropriate way	96.6	0	3.4	90.5	0	9.5
The course taught me ways to encourage parents to express themselves	79.3	3.4	17.2	66.7	4.8	28.6
The course helped me understand what a professional relationship with parents means	86.2	0	10.7	95.2	4.8	0
The course helped me understand the risks of getting overly involved with parents at the NICU	96.6	3.4	0	95.2	0	4.8
I can use the course content in other contexts than the NICU	93.1	0	6.9	95.2	0	4.8
I would recommend this course to my colleagues	96.6	0	3.4	95.2	0	4.8

communication specified. Twenty-eight participants (96.6%) said that they would recommend the course to colleagues; one was unsure.

Moreover, after the course, on a visual analogue scale from 0 to 10, participants evaluated aspects of the interest and usefulness of the course. Results are shown in Table 5. Ratings were highly positive for all these questions, regarding the practical relevance of the course for participants' work as well as general satisfaction with the course and the relevance of the cases discussed. Participants' assessment of the usefulness of the course for their work did not change from immediately after the course to follow-up ( $p = 0.14$ ).

### 3.5. Qualitative findings

Analysis of participants' free-response comments resulted in six categories, described below and exemplified with quotations.

#### 1. Providing the information that parents need and want

Participants learned how to give information that corresponds to what parents actually need and want to know at any given time, and that is worded in a way they can understand and does not cause unnecessary worry. The importance of limiting oneself to discussing matters within one's own competence, while consulting another professional with the relevant competence in other cases, was emphasized.

*"Greater awareness of what parents might actually want to know – not too much, not irrelevant information".*

*"Important that one doesn't always have to have an answer, security in being able to consult colleagues etc".*

**Table 5**  
Evaluation of the interest and usefulness of the course.

Item answered on a VAS from 0 (Not at all) to 10 (Very much so)	After course Mean (SD) N = 29	At follow-up Mean (SD) N = 21
How interesting was the content of the course for you?	9.2 (0.9)	N/A
How relevant were the cases discussed for you?	8.9 (1.3)	N/A
How satisfied are you with the course?	9.2 (1.1)	N/A
To what extent can you use what you learned on the course in your work?	9.2 (1.0)	8.7 (1.3)

*"Not to get entangled in discussing difficult information that may not even be necessary".*

#### 2. Understanding parents' emotions and showing empathy

Participants reported that the course had helped them understand how to respond to parents' expressions of emotions, such as sadness, anxiety or anger, showing understanding and empathy without attempting to alter or brush off parents' emotional reactions to their difficult situation. They also said they had gained better listening skills and greater confidence and sensitivity in communicating with parents about the parents' feelings.

*"Not to try to take away someone's feelings but validate them instead".*

*"I've been reminded of how I myself would like to be treated if I were the mother of a baby in the NICU or a patient myself".*

*"Getting better at picking up on feelings and thoughts of parents who aren't that communicative".*

#### 3. Understanding and accepting one's own role and its limits

Participants commented that the course helped them have realistic aims in communication situations and be more comfortable "being themselves" and fulfilling the role appropriate to them as nurses. For example, they did not have to pretend to be more knowledgeable than they were, appear emotionally unaffected by parents' distress, or try to take on a mental health professional's task. Some commented that it was good to reflect also on what they were already doing well as communicators and how to develop further.

*"Earlier I've had extremely high expectations of myself, as if I had to try to act as a psychologist. But now I've learned that it can sometimes be enough to listen and show empathy for the parents, that you understand their situation".*

#### 4. Taking care of oneself emotionally while helping parents

Participants said they had gained in awareness of the emotional effect on them of working with parents in distress and of the need for also showing oneself care and empathy. They appreciated discussion of the need for balance between meeting parents' needs and demands and protecting



themselves against burnout. They also reported greater awareness of how to use communication skills to make collaboration with parents smoother and less stressful.

*"To be kind to yourself and not burden yourself with guilt because you feel inadequate".*

*"Good to have discussion on the fact that family-centered care is difficult and demands a lot of time from staff".*

*"To have the confidence to respond to and validate parents' feelings without getting 'eaten up' yourself".*

#### 5. Valuable opportunity of sharing with others

Participants appreciated discussing communication situations with colleagues, including those from other units, and hearing their perspectives. These exchanges were perceived as supportive and useful for learning and for gaining confidence.

*"To see that I'm not the only one who thinks communication can be difficult".*

*"To discuss and understand everyone's opinions on all the different cases is important for developing one's communication skills".*

*"Good to be able to talk freely and hear others' experiences, you feel less ethical stress and can identify with others".*

#### 6. Course corresponds to a pressing need

Participants commented that there was a great need of communication training and that the course was highly applicable to their concrete day-to-day work. The cases discussed were particularly appreciated. Some thought the course ought to be offered to doctors as well, or even obligatory for all staff, including management.

*"It feels like the unit really needs courses/training in this area for us to be able to cope with our work".*

*"A very good and well-planned course that concerns exactly what we have to deal with every day. Ought to be obligatory for everyone".*

### 4. Discussion and conclusion

#### 4.1. Discussion

In the present study, we showed that a new case-based communication course improved the confidence of NICU nursing staff in their skills in communicating with parents. Although neonatal nursing staff face varied and demanding communication situations with distressed and anxious parents, they often lack training in interpersonal relations and communication [22]. In the present study, the lack of previous communication training reported by the vast majority of the participants contrasts starkly with the crucial importance participants attributed to communication in their work. Our study shows that training in specific communication skills needed in the NICU effectively increases nurses' confidence in their ability to deal with difficult communication situations involving parents. This communication training can thereby enhance the care of infants and families in the NICU and make nurses' work situation more rewarding and less stressful [22], potentially improving nurse retention.

Participants responded enthusiastically to the course, as shown by their course evaluation and comments. The overwhelming majority would recommend the course to colleagues; indeed, a number of nurses felt that the

communication course should be obligatory for NICU staff. They particularly welcomed the interactive nature of the course and the opportunity for exchanges with colleagues about topics and problems that concerned them all but were seldom discussed in the daily routine of the NICU.

While the nurses saw communication as a very important part of their job, they felt that they had too little time for communicating with parents. A lack of time available for nurse–parent conversations has also been found in previous studies [23]. It would be important for NICU management to ensure sufficient staffing so that nurses are not chronically pressed for time in this aspect of their work.

Somewhat surprisingly, experience of nursing in general or of NICU nursing was not associated with confidence in one's communication skills. It may be that more experienced nurses demand more of themselves as communicators. On the other hand, a lack of training in this area of their work may mean that handling difficult communication situations remains difficult for nurses even as they gain in experience.

This was a learner-centered course where participants were encouraged to draw on their own experiences of work in the NICU and to learn from each other. It aimed at both enhancing participants' understanding of communication, its complexity and its potential pitfalls, and giving them specific tools to apply in situations that are typical of work in the NICU. A crucial feature of the course was the emphasis on and time devoted to reflection and discussion about specific, detailed cases similar to those that nurses encounter in their concrete work. Participants' comments showed that they highly appreciated the opportunity to reflect on cases close to their actual clinical practice and to share their experiences, skills and difficulties with colleagues.

A novel feature of our course as compared to previous communication training programs for NICU staff [24,25] was its focus on developing skills not only to satisfy parents' communication needs but also, in doing so, to protect themselves against excessive stress. This entails not making communication situations more complicated than they need to be, being aware of the effect of parents' emotional state on them as staff, having a realistic sense of their own limits, and preserving professional boundaries. Achieving balance between generous and empathic interaction with patients and families and avoiding compassion fatigue and burnout is a perennial challenge for health care professionals [26].

We found that emotional exhaustion, a crucial aspect of burnout [27], was associated with communication-related problems including finding communication with parents stressful, brooding over conversations they had had with parents and especially feeling they had too little time for communicating with parents. Finding it stressful to have to break bad news has been previously shown to be associated with a high risk of burnout in physicians, whereas communication self-efficacy was associated with a low risk of burnout [28]. An association between burnout and communication problems has also been shown among resident physicians [29], while poor communication self-efficacy has been shown to be associated with burnout among oncology nurses [30].

While high scores on the Emotional Exhaustion and/or Professional Inefficacy subscales on the MBI were fairly common, few scored high on Cynicism. Nurses are exposed to stress that can lead to exhaustion or a pervasive sense of inadequacy. Nevertheless, they continue to perceive their work with infants and their families as meaningful and retain their empathy towards the infants and families in their care.

The qualitative findings of the present study reflect the importance of taking nurses' own perspective and professional well-being into account. Participants valued learning how to respond to parents' needs while at the same time taking care of themselves emotionally and understanding how skillful communication makes for easier, more productive collaboration with parents. Reflecting on how to form realistic expectations of their role as communicators and affirm the importance of what they do for families, while not becoming overburdened by parents' emotions, can enhance nurses' ability to cope with the emotional stressors of their work.

#### 4.2. Strengths and limitations

A strength of the study was the inclusion both of RNs and NAs, with experience of nursing ranging from brief to very long, and from a number of

different NICUs. Participants benefited alike from the course irrespective of their profession and degree of professional experience. Another strength was that about half the participants were given the opportunity to participate in the communication course in conjunction with another course (i.e. had not originally signed up specifically for the communication course), counteracting the sampling bias that might have affected the results if only nurses with a special interest in communication had participated. No differences in results were found between the two groups.

As the objective of the course was to improve participants' confidence in the communication tasks required by their work, we asked participants to evaluate their own skills in dealing with various types of difficult communication situations. The results do not necessarily reflect participants' communication skills as judged by others or as demonstrated in clinical situations. A further limitation was the relatively short follow-up time of four months.

#### 4.3. Innovation

Family-centered neonatal care demands a great deal of the communication skills of nursing staff. The present new, interactive, case-based communication course specifically designed for neonatal nursing staff was perceived as extremely helpful and increased nurses' confidence in dealing with difficult communication situations at work.

The present course was innovative in building on a wide variety of reality-based communication cases from the NICU, designed to be as relevant as possible to situations the nurses encounter in their daily work and to activate them to continuing reflection on their practice and experience. Peer-to-peer learning through exchanges among participants was a key element of the course. A unique feature of the course was the inclusion of a nurse perspective emphasizing the importance of good communication for nurses' own coping as well as for meeting families' needs.

The format of this course is flexible, and a future version could also include doctors working in the NICU, or staff from other areas of pediatric care, e.g. pediatric intensive care. The content could be expanded to cover challenging communication not only between staff and parents but also among staff (including between different professions).

#### 4.4. Conclusion

Training addressing the issues specific to nurses' communication with parents at the NICU in an interactive, learner-centered format is effective and highly appreciated. It improves nurses' professional skills and confidence and can enhance their ability to cope with the demands of their work. Communication training for NICU nurses is especially important given the time-consuming, sensitive and often emotionally stressful nature of their communication with parents, and should be seen as an integral part of their professional development.

#### Ethical approval

The study was evaluated by the Swedish Ethical Review Authority and deemed exempt from ethical review (approval number 2020–03588). The WMA Declaration of Helsinki was adhered to. All participants gave their informed consent.

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#### Declaration of Competing Interest

None.

#### References

- [1] Roque ATF, Lasiuk GC, Radünz V, Hegadoren K. Scoping review of the mental health of parents of infants in the NICU. *J Obstet Gynecol Neonatal Nurs*. 2017;46:576–87.
- [2] Gallagher K, Shaw C, Aladangady N, Marlow N. Parental experience of interaction with healthcare professionals during their infant's stay in the neonatal intensive care unit. *Arch Dis Child Fetal Neonatal Ed*. 2018;103:F343–F8.
- [3] Bry A, Wigert H. Psychosocial support for parents of extremely preterm infants in neonatal intensive care: a qualitative interview study. *BMC Psychol*. 2019;7.
- [4] Wigert H, Dellenmark Blom M, Bry K. Parents' experiences of communication with neonatal intensive-care unit staff: an interview study. *BMC Pediatr*. 2014;14:304.
- [5] Davidson JE, Aslakson RA, Long AC, Puntillo KA, Kross EK, Hart J, et al. Guidelines for family-centered care in the neonatal, pediatric, and adult ICU. *Crit Care Med*. 2017;45:103–28.
- [6] Kowalski WJ, Leef KH, Mackley A, Spear ML, Paul DA. Communicating with parents of premature infants: who is the informant? *J Perinatol*. 2006;26:44–8.
- [7] Hall SL, Cross J, Selix NW, Patterson C, Segre L, Chuffo-Siewert R, et al. Recommendations for enhancing psychosocial support of NICU parents through staff education and support. *J Perinatol*. 2015;35:S29–36.
- [8] Bry A, Wigert H. Stress and social support among registered nurses in a level II NICU. *J Neonatal Nurs*. 2022;28:37–41.
- [9] Crisco-Lizza R. The need to nurse the nurse: emotional labor in neonatal intensive care. *Qual Health Res*. 2014;24:615–28.
- [10] Trajkovski S, Schmied V, Vickers M, Jackson D. Neonatal nurses' perspectives of family-centred care: a qualitative study. *J Clin Nurs*. 2012;21:2477–87.
- [11] Buckley L, Berta W, Cleverley K, Medeiros C, Widger K. What is known about paediatric nurse burnout: a scoping review. *Hum Resour Health*. 2020;18:9.
- [12] Clayton MF, Jacob E, Reblin M, Ellington L. Hospice nurse identification of comfortable and difficult discussion topics: associations among self-perceived communication effectiveness, nursing stress, life events, and burnout. *Patient Educ Couns*. 2019;102:1793–801.
- [13] Bry K, Bry M, Hentz E, Karlsson HL, Kyllönen H, Lundkvist M, et al. Communication skills training enhances nurses' ability to respond with empathy to parents' emotions in a neonatal intensive care unit. *Acta Paediatr*. 2016;105:397–406.
- [14] Maslach C, Jackson SE, Leiter MP. Maslach burnout inventory: Third edition. In: Zalaquett CP, Wood RJ, editors. *Evaluating stress: A book of resources*. Lanham, MD: Scarecrow Press; 1997. p. 191–218.
- [15] Rotenstein LS, Torre M, Ramos MA, Rosales RC, Guille C, Sen S, et al. Prevalence of burnout among physicians: a systematic review. *JAMA*. 2018;320:1131–50.
- [16] Rodgers JL, Nicewander WA. Thirteen ways to look at the correlation coefficient. *Am Stat*. 1988;42:59–66.
- [17] Rey D, Neuhäuser M. Wilcoxon-signed-rank test. In: Lovric M, editor. *International encyclopedia of statistical science*. Berlin: Springer; 2011.
- [18] IBM SPSS Statistics for Macintosh. 28.0 ed. Armonk, NY: IBM Corp; 2021.
- [19] Graneheim UH, Lundman B. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse Educ Today*. 2004;24:105–12.
- [20] Maslach C, Jackson SE, Leiter MP. Maslach burnout inventory manual. 4th ed. Menlo Park: Mind Garden; 2018.
- [21] Leiter MP, Maslach C. Latent burnout profiles: a new approach to understanding the burnout experience. *Burn Res*. 2016;3:89–100.
- [22] Orzalesi M, Aite L. Communication with parents in neonatal intensive care. *J Matern Fetal Neonatal Med*. 2011;24:135–7.
- [23] Turner M, Chur-Hansen A, Winefield H. The neonatal nurses' view of their role in emotional support of parents and its complexities. *J Clin Nurs*. 2014;23:3156–65.
- [24] Boss RD, Urban A, Barnett MD, Arnold RM. Neonatal critical care communication (NC3): training NICU physicians and nurse practitioners. *J Perinatol*. 2013;33:642–6.
- [25] Meyer EC, Brodsky D, Hansen AR, Lamiani G, Sellers DE, Browning DM. An interdisciplinary, family-focused approach to relational learning in neonatal intensive care. *J Perinatol*. 2011;31:212–9.
- [26] Peters E. Compassion fatigue in nursing: a concept analysis. *Nurs Forum*. 2018;53:466–80.
- [27] Maslach C, Leiter MP. Understanding Burnout: New Models. In: Cooper CL, Quick JC, editors. *The handbook of stress and health: A guide to research and practice*. Malden: Wiley Blackwell; 2017. p. 36–56.
- [28] Messerotti A, Banchelli F, Ferrari S, Barbieri E, Bettelli F, Bandieri E, et al. Investigating the association between physicians self-efficacy regarding communication skills and risk of "burnout". *Health Qual Life Outcomes*. 2020;18:271.
- [29] Matsuo T, Takahashi O, Kitaoka K, Arioka H, Kobayashi D. Resident burnout and work environment. *Intern Med*. 2021;60:1369–76.
- [30] Emold C, Schneider N, Meller I, Yagil Y. Communication skills, working environment and burnout among oncology nurses. *Eur J Oncol Nurs*. 2011;15:358–63.