

LETTER TO THE EDITOR

Challenges and opportunities for early intervention and neurodevelopmental follow-up in preterm infants during the COVID-19 pandemic

The impact of the COVID-19 outbreak has been particularly dramatic in Italy and has affected the country's National Health Service on several levels. In the present paper, we would like to share our recent experience in Lombardy, the initial hotspot of COVID-19 contagion in Europe, with the aim of promoting adequate care for preterm infants and their parents during the ongoing pandemic.

In accordance with the relevant Italian Society of Neonatology (SIN) guidelines, to reduce the contagion risk, many neonatal intensive care units (NICUs) are reducing access to the unit, allowing fewer visitors and limiting the time they can stay. Although necessary, we are concerned that these restrictions may result in an unnatural physical separation between parents and newborns, which may ultimately affect both preterm infants and parents' well-being. Literature highlights that early parental engagement in the NICU is vital: parental presence and infant holding in the NICU are related to improved early and long-term neurobehavioral outcome (Latva, Lehtonen, Salmelin, & Tamminen, 2004; Sansavini et al., 2011); benefits on parents' emotional well-being are also reported (Pineda et al., 2018). Therefore, mitigating the detrimental effects of COVID-19 restrictions has become a key goal for NICUs worldwide, and this is especially true in cases of long-term hospitalization following preterm birth. Promoting parental presence and active engagement in the NICU environment, encouraging breastfeeding and skin-to-skin contact and facilitating physical and emotional closeness between parents and their newborns are all crucial objectives whose importance, we believe, has grown during the COVID-19 pandemic. There are various technological solutions that can help professionals to provide families with adequate care in these unprecedented circumstances, by facilitating communication between parents and staff, involving parents in the decision-making process and serving as a channel for exchanging clinical and developmental information about the infant. In our centre, we aim to offer parents online consultation, provide online notice boards where they can find information about preterm newborns and make videos of single children in the NICU. Since only one parent is permitted to access the unit each day, these videos could be a useful way of helping the absent parent to feel involved.

Because of the pandemic, the usual neurodevelopmental follow-up programs implemented after NICU discharge can no longer be delivered face-to-face (Fazzi & Galli, 2020). In compliance with the Italian Society of Child and Adolescent Neuropsychiatry (SINPIA) guidelines, these activities are now being conducted using telemedicine approaches. Our programme of neurodevelopmental follow-up after discharge from the NICU at the Policlinico San Matteo in Pavia begins with an initial anamnestic screening, by phone, of children older than 3 months of corrected age without major risks for adverse neurodevelopmental outcomes. For children considered to be at major risk due to their preperinatal history or because of what emerged from the telephone screening, we then organize 30-min live video observations in order to observe, through play, their postural development, fine and gross motor functions, visual exploration skills, cognitive and behavioural development and emotional regulation, as well as parent-infant interaction. A tele-habilitation programme is then implemented. During the tele-habilitation sessions, a neurodevelopmental therapist helps parents to create a well-organized play environment enriched with age-appropriate toys. Advice is given on home play activities designed to promote specific abilities (such as turn taking, joint attention, emotional regulation, precursors of language, fine or gross motor skills) and to support parent-infant interaction. The sessions are an important opportunity both for parents and for medical staff: they help the professionals develop an intervention aimed at promoting specific adaptive functions and offer families an active listener, equipped to provide concrete support in the management of the child's daily routine.

Our families have been very satisfied with the follow-up and habilitation sessions delivered via telemedicine. During the lockdown, parents spent much more time than usual with their children and the availability of continued follow-up reassured them, allaying concerns over how to spend this time effectively. Tele-intervention allowed our parents to become more involved in the observation of their infants. This promoted the development of parenting skills and helped parents to develop a greater knowledge of their children's behaviour and to consistently support their development throughout the lockdown. Additionally, the fact of being in their own home, a

comfortable and nonthreatening setting, may reduce stress and anxiety both in parents and in children. During our almost 6-month experience, this *remote approach* has allowed us to actively involve parents, acting on each family's home environment and on daily parent–infant interaction and tailoring the neurodevelopmental promotion intervention to the specific needs of the single family. Nevertheless, applying telemedicine to deliver the follow-up programme was sometimes problematic, for example, in the case of younger babies and families unable to afford the necessary technology. Effective tele-observation of younger babies (i.e., less than 3 months of age) depends on many variables (such as the infant's behavioural state, which may be linked to meal times, episodes of infantile colic and so on) and therefore required more time and organization. Currently, we are trying to create, for younger children, simple protocols for tele-observation sessions. The idea is to have parents record the sessions using smartphones and then share them with medical staff. We are also offering online information boards devoted to preterm children's characteristics and needs at different ages, where parents can find suggestions on appropriate toys, play and ways of helping children reach developmental milestones.

Tele-observations and early tele-interventions are nonintrusive, family-centred and reassuring ways to support and communicate with families of preterm children during the COVID-19 pandemic. We believe these valuable approaches should continue to be implemented in follow-up programmes even after the current emergency. Difficult and unexpected circumstances sometimes bring to light possibilities and opportunities that we might not have thought of otherwise. We suggest that remote habilitation services could ensure continuity of intervention and minimize potential developmental delays in all situations (infection or other conditions) that require children to be isolated, or when patients are not within easy reach of specialized support.

Camilla Caporali^{1,2}

Camilla Pisoni³ 

Cecilia Naboni²

Livio Provenzi²

Simona Orcesi^{1,2}

¹*Department of Brain and Behavioral Sciences, University of Pavia, Pavia, Italy*

²*Child Neurology and Psychiatry Unit, IRCCS Mondino Foundation, Pavia, Italy*

³*NICU, Fondazione IRCCS Policlinico San Matteo, Pavia, Italy*

ORCID

Camilla Pisoni  <https://orcid.org/0000-0001-9292-9682>

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