

# The post-pandemic re-organization of birth centres and its impact on perinatal asphyxia in the province of Reggio Emilia

Luca Barchi <sup>1\*</sup>, Silvia Braibanti <sup>2</sup>, Giancarlo Gargano <sup>2</sup>

<sup>1</sup> Post-Graduate School of Pediatrics, Mother-Infant and Adult Department of Medical and Surgical Sciences, University of Modena and Reggio Emilia, Modena, Italy.

<sup>2</sup> Neonatal Intensive Care Unit, Department of Obstetrics and Pediatric, IRCCS, Arcispedale Santa Maria Nuova, Reggio Emilia, Italy.

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**Objective.** The pandemic forced the re-organization of birth hospitals in the province of Reggio Emilia. In 2018 there were four different birth centres, in 2021 only two out of four were still working. The OBJECTIVE of the study was to evaluate if the centralization of birth centres had worsened the stillbirth rate and perinatal asphyxia (PA) outcome during the SARS-CoV-2 pandemic period (years 2020-21) compared to the pre-pandemic period (years 2018-19).

**Materials and Methods.** Retrospective review of birth rate, recovery for PA rate and stillbirth rate in the province of Reggio Emilia.

**Results.** Statistical data showed a decrease of overall births from 2018 to 2021 (7516 newborns in 2018-19 to 6363 in 2020-21), in accordance with the national trend. The percentage of newborns in the NICU in Reggio Emilia increased from the pre-pandemic period (59.66%) to the pandemic period (83.66%). Regarding the stillbirth rate, we observed a decrease from the pre-pandemic period (3.20‰) to the pandemic period (2.36‰). As far as concerned the PA rate, the percentage showed a reduction from the pre-pandemic (0.44%) to the

Table 1.

	Pre-pandemic (2018-2019)	Pandemic (2020-2021)
Overall birth (n)	7516	6363
NICU birth (%)	59,66	83,66
Stillbirth rate (‰)	3,20	2,36
Perinatal asphyxia rate (%)	0,44	0,36
HIE (%)	0,16	0,12
• Mortality (%)	10,00	0,00
• Brain imaging lesions (%)	36,66	26,08
• Seizures (%)	16,66	13,04

pandemic period (0.36%). We also observed a decrease of the hypoxic-ischemic encephalopathy (HIE) rate from 0.16% to 0.12%. Finally, three different outcomes were evaluated in patients admitted for perinatal asphyxia: mortality, brain imaging lesions and seizures. During the pandemic we observed a significant decrease in all of these (Table 1).

**Conclusions.** Centralization of birth centres did not worsen perinatal diseases as far as concerns stillbirth, PA and HIE rate. On the contrary, we observed an enhancing of patients' outcomes.