



Author's reply to the Letter to the Editor on the original article "Lack of changes in preterm delivery and stillbirths during COVID-19 lockdown in a European region" by Juan Arnaez

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Dear Editor,

We would like to thank Dr. Vimalasvaran and Dr. Shetty for their interest in our paper [1]. Our study, like any other study, must be interpreted in light of other studies that have yielded both similar and different results. This is argued in the discussion and we noted in our conclusions that collaborative efforts are desirable to gather evidence concerning this global health problem [1].

The main strength of our study is that it addresses the link between prematurity and lockdown through a multicenter-population study that includes all tertiary centers that attend preterm infants in a large region of our country. Vimalasvaran and Shetty's study included data from only a neonatal unit, and though we did not have access in their report to the raw numbers we may venture to guess the number of premature births were low.

We strongly feel that in this type of study the data must be presented with adjusted analysis [2]. There are numerous factors involved in the mortality rate, as well as in prematurity

itself, such as multiple birth and the type of delivery. Information to this effect should be included in studies [3]. We did not find this adjusted analysis in the Vimalasvaran and Shetty study, and we believe this highlights another methodological strength of our study.

The authors also pointed out that there was a significant decrease in post-term births during the lockdown period and that there were no changes in rates of stillbirths. The percentages of post-term births and stillbirths during the lockdown period in our study were only 0.27 (95% CI 0.01–0.53) and 0.33 (95% CI 0.04–0.61), respectively, even though we surveyed an extensive region served by 13 hospitals. Thus, raw numbers from a single unit should have been very low and estimates would be inaccurate or imprecise. In fact, a study conducted at a London hospital showed an increase in stillbirths following the COVID-19 pandemic [4], but a more robust study including regional and national data in England found no link between stillbirths and lockdown [5].

Whether the incidence of neonatal encephalopathy has fallen during the lockdown as reported by Vimalasvaran and Shetty deserves consideration. However, because this disorder is very rare (around 1 per 1000 newborns) [6], we believe that it is difficult to reach conclusions from changes in the incidence in such a short period and at a single center.

In summary, conclusions of the studies examining the impact of lockdown on neonatal pathology should be approached cautiously, and collaborative efforts to address this issue are desirable if we want to acquire an overview of the impact of lockdown on perinatal pathology.

Authors' Contributions JA, COS, and AGA contributed equally to the writing of this correspondence.

Declarations

Conflict of interest The authors declare no competing interests.

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References

1. Arnaez J, Ochoa-Sangrador C, Caserio S, Gutierrez EP, Jimenez MDP, Castanon L, Benito M, Pena A, Hernandez N, Hortelano M, Schuffelmann S, Prada MT, Diego P, Villagomez FJ, Garcia-Alix A (2021) Lack of changes in preterm delivery and stillbirths during COVID-19 lockdown in a European region. *Eur J Pediatr* 12:1–6
2. Harvey EM, McNeer E, McDonald MF, Shapiro-Mendoza CK, Dupont WD, Barfield W, Patrick SW (2021) Association of Preterm Birth Rate With COVID-19 Statewide Stay-at-Home Orders in Tennessee. *JAMA Pediatr* 15:e206512
3. Blondel B, Macfarlane A, Gissler M, Breart G, Zeitlin J, Group PS (2006) Preterm birth and multiple pregnancy in European countries participating in the PERISTAT project. *BJOG* 113:528–535
4. Khalil A, von Dadelszen P, Draycott T, Ugwumadu A, O'Brien P, Magee L (2020) Change in the Incidence of Stillbirth and Preterm Delivery During the COVID-19 Pandemic. *JAMA* 324:705
5. Stowe J, Smith H, Thurland K, Ramsay ME, Andrews N, Ladhani SN (2020) Stillbirths During the COVID-19 Pandemic in England, April–June 2020. *JAMA* 325:86–87
6. Arnaez J, Garcia-Alix A, Arca G, Caserio S, Valverde E, Moral MT, Benavente-Fernandez I, Lubian-Lopez S (2018) Population-Based Study of the National Implementation of Therapeutic Hypothermia in Infants with Hypoxic-Ischemic Encephalopathy. *Ther Hypothermia Temp Manag* 8:24–29

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