

# Effect of COVID-19 on Rates of Induction of Labour and Stillbirth at Mid Yorkshire NHS Trust

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## Introduction

Induction of labour (IOL) consists of active medical intervention to initiate labour. There are many indications for IOL's. Nationally, approximately 1 in 5 births are induced, with the fundamental aim of reducing harm to mother and baby.<sup>1</sup> During the first few months of the COVID-19 pandemic, there was a national lockdown that caused disruption to the provision of healthcare, with a significant reduction in spontaneous presentations to hospital. We aimed to assess the impact of these changes on the local induction of labour rate, and then to evaluate the effect, if any, of a change in the rate of inductions on the rate of stillbirths. We also looked at whether there were any significant changes in the indication for induction.

## Methods

All IOL at a West Yorkshire maternity unit were compared for a three-month period from March-May in 2019 and 2020. The data for 2019 was acquired from ICE, an electronic patient record system. The data for 2020 was acquired from Badgernet, a maternity specific electronic patient record introduced trust-wide in September 2019. The induction of labour rate was calculated by dividing the total number of inductions for each period by the total number of births for each period. The frequency of each indication was calculated as a percentage of the total number of inductions for each period. The resulting values were compared using a 2-tailed student T-test, to identify any significant changes between the two time periods. The stillbirth rates for the relevant time periods were acquired from the maternity dashboard.

**Figure 1.** The number of births that were induced at Mid Yorks partnership trust during two different three month periods.

|                 | Total Number of Births | Total Number of Inductions | Percentage of Inductions |
|-----------------|------------------------|----------------------------|--------------------------|
| Cohort 1 (2019) | 1486                   | 587                        | 39.50                    |
| Cohort 2 (2020) | 1433                   | 462                        | 32.24                    |
| P Value         |                        |                            | 0.000043                 |

## Results

Our results showed that from March-May 2019, 39.5% of births were inductions, compared to 32.2% from March-May 2020, representing a significant decrease. The stillbirth rate for March-May 2020 was 4.1 per 1000 births, which is consistent with the previous year. There was a statistically significant decrease in the proportion of IOL for post-dates (35.94% to 17.97%,  $P=8.36 \times 10^{-11}$ ), and a statistically significant increase in the number of IOL for hypertensive disorders (5.79% to 12.55%,  $P=1.17 \times 10^{-4}$ ), IUGR/SGA/Abnormal Dopplers (10.90% to 16.23%,  $P=1.14 \times 10^{-2}$ ) and maternal request (0.85% to 2.60%,  $P=2.62 \times 10^{-2}$ ).

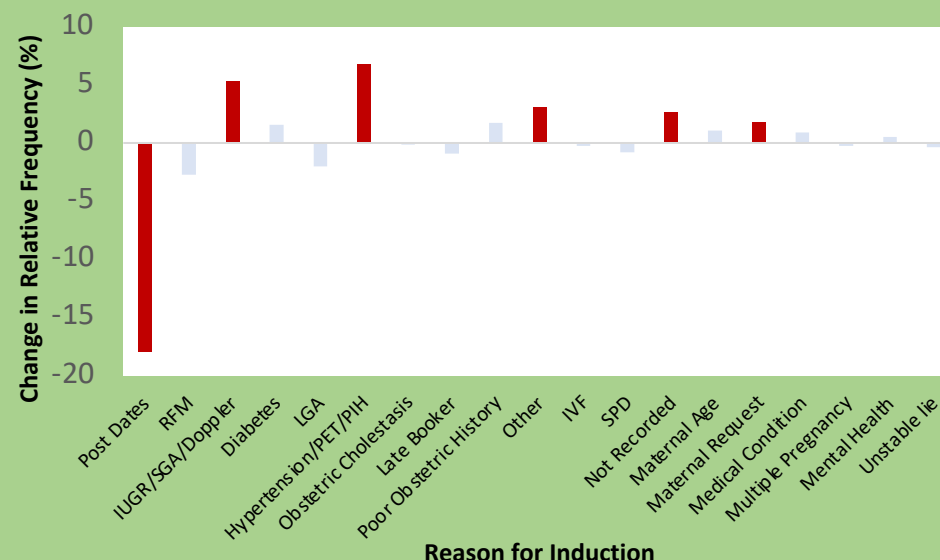


**Figure 2.** The change in relative frequency of each indication for IOL. Those that are statistically significant are shown in red.

## Discussion

During the initial COVID-19 lockdown, data from various sources suggested that spontaneous presentations to hospital of all types reduced significantly. This has been suggested to be due to a number of factors relating to the virus, including an unwillingness to be exposed to the virus and an unwillingness to burden the healthcare system. An apparent consequence of this is that the induction of labour rates reduced significantly, from 39.5% of all births, down to 32.2% of all births. It may be that the rate of post-dates inductions fell due to this change in maternal behaviour resulting in more women awaiting spontaneous labour.

We saw an increase in the number of IOL's for FGR and SGA and we feel that this is likely due to the use of Saving Babies Lives Care Bundle introduced in 2019.<sup>2</sup>

## References

1. Inducing Labour. NICE Guideline 2008. <https://www.nice.org.uk/guidance/cg70>
2. Saving babies lives care bundle. NHS England. 2019. <https://www.england.nhs.uk/wp-content/uploads/2019/03/Saving-Babies-Lives-Care-Bundle-Version-Two-Updated-Final-Version.pdf>