



Maternal and perinatal Health Research collaboration, India (MaatHRI) is a UK-India collaboration for maternal and perinatal health research. It is a collaboration between the University of Oxford (National Perinatal Epidemiology Unit, Nuffield Department of Population Health) and 15 government and private hospitals across five states in India.

Research update

- Workstream-1 (monthly survey of severe maternal complications) is continuing in all hospitals. Using the survey data collected from December 2018 to May 2021 we were able to estimate the impact of the COVID-19 pandemic on hospital births, incidence and case-fatality of severe maternal complications (see next page).
- Workstream-2 (case-control study of heart failure in pregnant women) still has a lower recruitment rate due to the increase in case-fatality during the pandemic (see next page). Since February 2019, we have recruited 265 cases of suspected heart failure and 504 controls.
- Workstream-3 (prospective study of safety of induction and augmentation of labour in women with anaemia) is continuing and the current participant recruitment rate is higher than the rate in the pre-pandemic period. We have recruited almost 60% of the required sample.

Training and capacity building continues through a snowball effect



Site-investigator at Silchar Medical College, Assam (Dr Sereesha Rao) training a junior colleague (Dr Salma Choudhury) on using hand-held echocardiography. Dr Rao was herself trained by her senior colleague last year. Thus, the pool of obstetricians trained in conducting hand-held echocardiography is growing through a snowball effect.



COVID-19 lockdowns spark a 'reproductive health crisis' in India

MaatHRI writing group on behalf of the MaatHRI collaboration (2021). Reproductive health crisis during waves one and two of the COVID-19 pandemic in India: incidence and deaths from severe maternal complications in more than 202000 hospital births. *EClinicalMedicine*. DOI: 10.1016/j.eclinm.2021.101063

[www.thelancet.com/journals/eclinm/article/PIIS2589-5370\(21\)00343-6/fulltext](http://www.thelancet.com/journals/eclinm/article/PIIS2589-5370(21)00343-6/fulltext)

Key results:

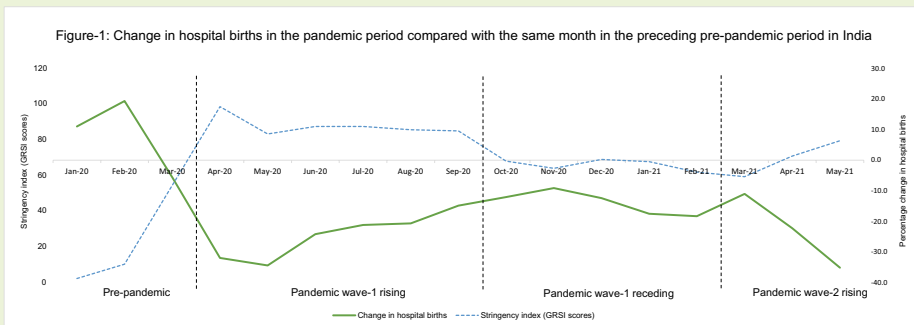
From December 2018 to May 2021, a total of 24,978 women were admitted to the 15 MaatHRI collaborating hospitals with at least one of the nine surveyed pregnancy complications, and 1,020 of them died.

The number of hospital births significantly decreased during the pandemic. Compared with the corresponding month in the pre-pandemic period, hospital births decreased by nearly 5% for every 10% increase in Government Response Stringency Index (GRSI) [a country-level score that measures the strictness of restrictions to control the pandemic].

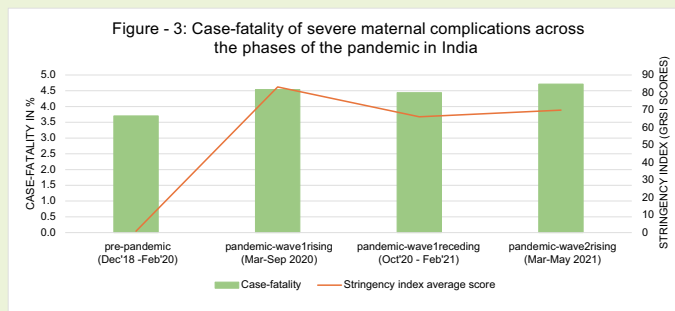
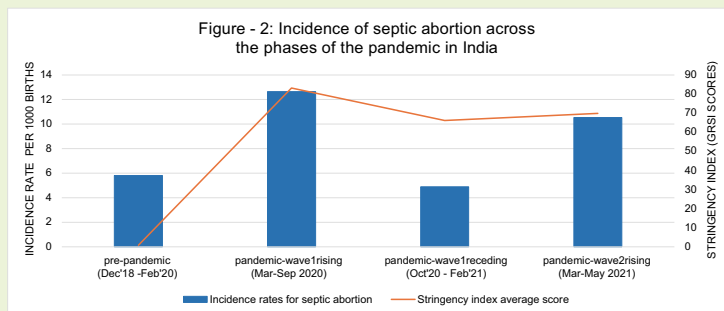
During the pandemic, the overall incidence of maternal complications increased by 10%. This was mainly due to a significant rise in hospital admissions from septic abortion, which were 56% higher during the pandemic.

The overall case fatality from the nine complications increased by 23% during the pandemic period compared with the pre-pandemic period.

In particular, there was a doubling in the case fatality for heart failure in pregnancy, increasing from 29 to 58%



β coefficient of association between change in births and stringency index after accounting for time = -0.48 (95% CI= -0.63 to 0.33, $p < 0.001$)
Data source for the change in births: MaathRI; Data source for the Stringency index: Government Response Stringency Index (GRSI) developed by the Blavatnik School of Government at the University of Oxford (Oxford, UK)



What can be done to revert this crisis?

Sexual and reproductive health services should not be affected by lockdowns

- Public and private clinics offering contraception and safe-abortion services should remain open with adequate staff and services.

Obstetric emergencies require rapid evaluation and interventions

- There should be no delay in travel and reaching the facility.
- A few ambulances can be kept as priority service for pregnant women and every district should have a designated obstetric care hospital that is COVID-safe.

Public messaging is key

- “Severe complications in pregnancy can be life-threatening if treatment is delayed - DON'T DELAY, GET HELP from your nearest health facility.”

Updates on trends in hospital births, incidence and case-fatality of severe maternal complications will be disseminated regularly through this newsletter.

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