Investing in robust surveillance of the effects of covid-19 and future emerging infections in pregnancy should be prioritised

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As we write this, covid-19 cases have plateaued again in the UK and across Europe, after rising earlier in the autumn. But many studies specifically focusing on covid-19 in pregnancy have stopped collecting data, so we have no immediate way of assessing the effect of this and future waves of infection on pregnant women. In a recent BMJ Medicine paper we showed that the outcomes of admission to hospital with symptomatic covid-19 among unvaccinated pregnant women were similar during the omicron dominance period and the wild type period. This comparison was only possible because of ongoing pregnancy surveillance and provided real world evidence of the protective effect of vaccination against severe disease in pregnancy.

Nevertheless, we still have concerns around vaccination rates among pregnant women and messaging around immunisation during pregnancy. We have both drawn perspectives from our different countries. In the UK, the lowest vaccination rates are around 70%, with vaccines being recommended to pregnant women with risk factors in December 2020 and to all pregnant women from April 2021 as part of the age prioritised rollout in the general population. In Norway, vaccination was recommended for pregnant women with risk factors from May 2021 and for all pregnant women in their second or third trimester from 18 August 2021. Surveillance data from the Norwegian Institute of Public Health show that vaccination uptake among pregnant women rose from 27% in September 2021 to 75% in February 2022 and 87% in May 2022. Thus vaccination rates are higher in Norway despite a shorter period of availability.

National vaccine recommendations were based on national surveillance of the infection and the burden of severe disease among pregnant women and on the best available evidence from vaccine trials. The UK had higher rates of hospital admission with symptomatic covid-19 in pregnancy than Norway and thus an earlier recommendation for vaccination to protect women and their infants. When this recommendation was issued, there were very few studies on vaccine use in pregnancy, and the public debate was polarised regarding benefits and potential side effects.

The situation for pregnant women in the UK in the first months of 2020 was very different to the situation in other European countries. The risk of admission with symptomatic covid-19 in the UK was 4.9 per 1000 maternities, contrasting with zero admissions in Iceland and 0.4 per 1000 maternities in Denmark, Finland, and Norway, although all countries used a surveillance system modelled on the UK Obstetric Surveillance System (UKOSS). The low burden of severe infection in countries like Norway meant that the countries could wait to provide vaccine recommendations for pregnant women until the body of literature grew and robust safety data were available. The available data on vaccination and risk of severe disease could then be combined, discussed with relevant groups of health personnel providing care for pregnant women, and used to make a joint recommendation; this process might have contributed to higher trust and uptake.

In the initial period of the pandemic, little was known about the effects of SARS-CoV-2 in pregnant women, and successive case series from single hospitals or groups of hospitals were published, including larger and larger groups of pregnant women admitted to hospital. Improved clinical knowledge was undoubtedly essential, but the race for larger datasets to the exclusion of population based data might have served to overlook low admission rates and potential lessons for primary prevention and benefits for vulnerable groups.

The observed differences in covid-19 infection rates between countries most likely reflect a complex interplay of factors such as population density, employment, and household make-up, but it is striking that the Nordic countries had implemented public health measures at or above the Oxford lockdown index of 50 by 15 March 2020, whereas the UK crossed this threshold a week later. The observed differences in infection rates in the first wave might indicate that this and other public health measures limiting viral transmission also protected pregnant women before the availability of vaccines.

Nevertheless, public health measures impeding pregnant women from accessing pregnancy services can have devastating consequences. Lockdown measures in India led to a decline in hospital births and an increase in adverse pregnancy outcomes, and concerns have been raised in the UK about the negative effects on women’s mental health in pregnancy and puerperium.

We can only tackle these questions concerning the effects of infection and public health control measures if we recognise the importance of the surveillance of pregnant populations in pandemic situations and of including pregnant women in clinical trials. Based on experiences from the H1N1 epidemic in 2009, UKOSS had a study funded by the NIHR that was set up and then paused, ready to be activated in the event of a pandemic. A similar protocol was adapted for SARS-CoV-2 in pregnancy surveillance in several other countries, including Norway, Italy and The Netherlands, which enabled more reliable comparison across countries.

But funding for surveillance of the consequences of
the pandemic for the pregnant population has been scarce, and the studies have, in many instances, been undertaken by clinicians operating on a shoestring and juggling high clinical workloads.

As new variants of the SARS-CoV-2 virus emerge and a new influenza wave is expected, investing in robust surveillance of the effects on health in pregnancy should be prioritised. Such robust information about groups more vulnerable to infection will have a key role in communication and strategies to mitigate health inequalities.

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