



COVID-19 In pregnancy

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Outline

- COVID-19 in South Australia – local experience
- COVID-19 Global experience and outcomes
- Clinical Guidelines
- Post natal and breastfeeding advice
- Long term outcomes
 - Mental health
- Vaccination – who, what, when, does it pass to the baby

COVID-19 in South Australia

- SA had been largely spared a large scale outbreak
- Opening of borders November 2021 saw rapid increase in numbers
- Mixed delta and omnicron
- Now vast majority of random samples of positive results are omnicron
- 1st positive case called through to covid care team at FMC 16/12/2021
- 1st COVID positive delivery at FMC 24th Dec 2021

COVID-19 in South Australia

- Data collection incomplete
 - Rapid rise in case numbers
 - No clear linking of data systems
- Total numbers
 - ???????
- Number of ICU admissions
 - 2 - both unvaccinated
- Antenatal admissions due to COVID
 - 2 – 3 per week
 - Most are admissions WITH covid not because of covid

Covid-19 : Global perspective

	Studies	Pandemic		Pre-pandemic		Odds ratio or mean difference*	p value	I ²
		Events	Pregnancies	Events	Pregnancies			
Maternal and perinatal death								
Stillbirth	12	1099	168 295	1325	198 993	1.28 (1.07-1.54)	0.0082	63%
HICs only	8	625	150 404	640	165 118	1.38 (0.94-2.02)	0.099	52%
LMICs only	4	474	17 891	685	33 875	1.29 (1.06-1.58)	0.012	64%
Neonatal death	3	62	13 214	120	22 570	1.01 (0.38-2.67)	0.98	85%
HICs only	1	5	2 538	6	1 262	0.41 (0.13-1.36)	0.14	NA
LMICs only	2	57	10 676	114	21 308	1.37 (0.42-4.46)	0.59	90%
Maternal death	2	530	1 237 018	698	2 224 859	1.37 (1.22-1.53)	<0.0001	0%
HICs only	0	NA	NA	NA	NA	NA	NA	NA
LMICs only	2	530	1 237 018	698	2 224 859	1.37 (1.22-1.53)	<0.0001	0%

Covid-19 : Global perspective

LMICs only	4	530	143/010	090	2224039	1.3/ (1.22-1.33)	<0.0001	0%
Maternal morbidity and complications								
Gestational diabetes	6	697	6946	954	10137	1.01 (0.86-1.19)	0.85	45%
HICs only	5	667	6675	920	9826	1.02 (0.85-1.22)	0.86	56%
LMICs only	1	30	271	34	311	1.01 (0.60-1.71)	0.95	NA
Hypertensive disorders of pregnancy	6	293	6946	434	10137	1.16 (0.75-1.79)	0.50	81%
HICs only	5	279	6675	431	9826	0.99 (0.67-1.46)	0.95	77%
LMICs only	1	14	271	3	311	5.59 (1.59-19.7)	0.0073	NA
EPDS score	3	NA	2330	NA	6517	0.42 (0.02-0.81)	0.038	79%
HICs only	1	NA	91	NA	101	2.16 (0.92-3.40)	0.0006	NA
LMICs only	2	NA	2239	NA	6416	0.22 (0.21-0.23)	<0.0001	0%
Early pregnancy outcomes								
Surgical treatment of ectopic pregnancy	3	27	37	73	272	5.81 (2.16-15.6)	0.0005	26%
HICs only	3	27	37	73	272	5.81 (2.16-15.6)	0.0005	26%
LMICs only	0	NA	NA	NA	NA	NA	NA	NA

Clinical guidelines

- Staying on top of the evidence and most recent advice is difficult
- Advice changes rapidly
- National taskforce set up to create living guidelines
 - <https://covid19evidence.net.au>
- Isolation, testing, clearance
 - SA Health
- SA COVID maternity pathway
- MAB infusion pathway
 - <https://www.sahealth.sa.gov.au/wps/wcm/connect/Public+Content/SA+Health+Internet/Conditions/Infectious+diseases/COVID-19/Health+Professionals/Monoclonal+Antibody+Infusion+Application>

Postnatal and breastfeeding advice

- Rooming in as per normal in hospital
- Breastfeeding
 - Encouraged
 - Small amounts of antibody found in breastmilk
 - Advise to wear mask and practice hand hygiene while in infectious period
- Consider DVT prophylaxis
 - RCOG guidance if VTE score >2 for 14 days clexane

Long term effects

TABLE 4 Quality of life, cognition, and functional outcome 3 months after COVID-19

	All, n = 135	Severe disease requiring ICU admission, n = 31, 23%	Moderate severity, hospitalization, non-ICU, n = 72, 53%	Mild severity, outpatient, n = 32, 24%	Missing data	p value*
Mental health						
Posttraumatic stress disorder, PCL-5 > 32	11 (11)	4 (17)	6 (12)	1 (5)	37	0.427
Depression, HADS-D	11 (11)	3 (13)	7 (13)	1 (5)	37	0.569
Depression, HADS-D >7	8 (8)	1 (4)	6 (11)	1 (5)
Depression, HADS-D >10	3 (3)	2 (8)	1 (2)	0 (0)
Anxiety, HADS-A	24 (25)	5 (21)	13 (25)	6 (29)	37	0.834
Anxiety, HADS-A >7	17 (17)	3 (13)	9 (17)	5 (24)
Anxiety, HADS-A >10	7 (7)	2 (8)	4 (8)	1 (5)
Quality-of-life measures						
SF-36 impaired	28 (31)	9 (43)	16 (31)	3 (17)	45	0.212
Persistent fatigue	35 (27)	15 (50)	12 (17)	8 (26)	4	0.003
Sleep disturbances	45 (34)	13 (43)	23 (32)	9 (28)	2	0.419
Cognition						
Forgetfulness, trouble concentrating, difficulty thinking, self-reported	30 (25)	7 (26)	16 (24)	7 (24)	13	0.983
MoCA <26	29 (23)	8 (29)	20 (30)	1 (3)	11	0.012
MoCA	28 (26–29)	28 (25–28)	28 (25–29)	29 (28–30)	11	<0.001
Functional outcome						
GOSE	8 (7–8)	7 (7–8)	8 (7–8)	8 (7–8)	0	0.015
mRS	1 (0–1)	1 (0–2)	0 (0–1)	0 (0–1)	0	0.005

Data are given as median (interquartile range) and count (%). Anxiety and depression (HADS-A, HADS-D) were scored as slightly increased when >7 and increased when >10.

Abbreviations: GOSE, Glasgow Outcome Scale Extended; HADS-A, Hospital Anxiety and Depression Scale–Anxiety subscale; HADS-D, Hospital Anxiety and Depression Scale–Depression subscale; MoCA, Montreal Cognitive Assessment; mRS, modified Rankin Scale; PCL-5, Posttraumatic Stress Disorder Checklist–5; SF-36, 36-item Short Form.

* χ^2 or Kruskal-Wallis tests were used to assess for differences across severity grades (severe, moderate, mild). A p value <0.05 signifies significantly different data distribution across severity groups.

Vaccination

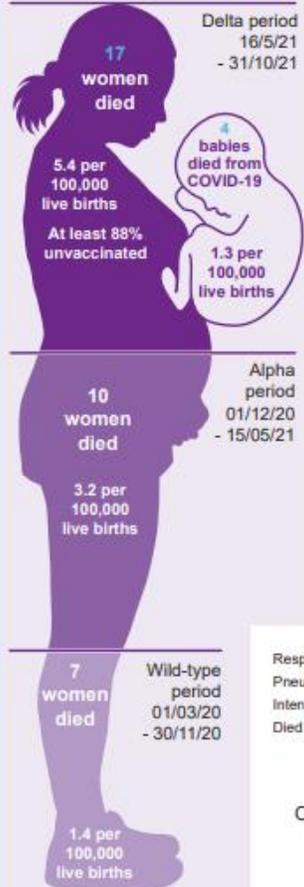
- Current vaccinations approved for use in pregnancy
 - Pfizer
 - Primary course and booster
 - Moderna
 - Primary course
 - Novavax
 - Primary course only – provisional TGA approval
- Current vaccine uptake in pregnant population
 - Difficult to assess
 - FMC data suggests in region on 40 – 50%
 - Less so in other LHN
 - Nationally there is an increase in vaccination rates in the childbearing age group

Vaccination

- Vaccine myths
 - It crosses the placenta/will alter my or my baby DNA
 - mRNA broken down very quickly
 - In contrast new studies are showing a placentitis and SARS-COV is being isolated in the placentas of women who have had a stillbirth due to COVID infection
 - Higher levels of antibody in cord blood following vaccination vs natural infection
 - My baby will get better immunity if I have it while breastfeeding
 - Higher levels of antibody are demonstrated in maternal serum and neonatal cord blood than breast milk in vaccinated individuals
 - Vaccination will decrease my supply
 - Possibly partially true – up to 11% reported transient decrease in milk supply

Update 16 December 2021

Deaths of women with COVID-19 acquired during or up to six weeks after pregnancy

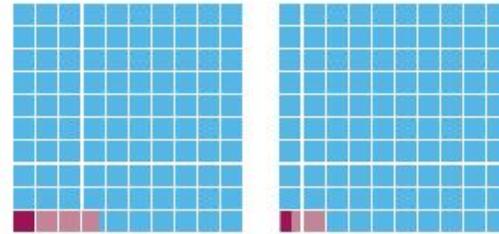


Key information on COVID-19 in pregnancy



16th May 2021 to 31st October 2021

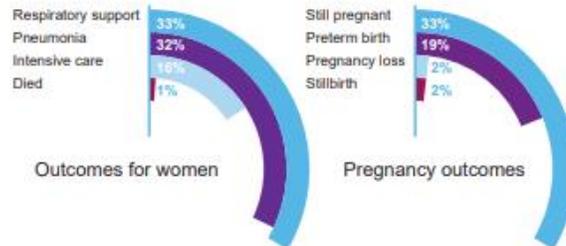
1436 pregnant women admitted to hospital with symptomatic COVID
230 of whom (16%) were admitted to intensive care



96.3% unvaccinated
2.6% one dose
1.1% two doses

Outcomes of COVID-19 Delta for 1436 pregnant women admitted to hospital with symptoms

16th May 2021 to 31st October 2021



- https://www.npeu.ox.ac.uk/assets/downloads/npeu-news/MBRRACE-UK_Rapid_COVID_19_DEC_2021_-_Infographic_v13.pdf

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