

# Exposure to bushfire smoke in pregnancy: A burning issue for maternal and neonatal outcomes?

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## Background

Bushfires and the potential hazards of associated air pollution on pregnant women and their developing newborns is becoming a more frequent concern amidst the current climate changes.

## Aims

To assess whether exposure to the Black Summer Bushfires had significant effect on maternal or neonatal outcomes

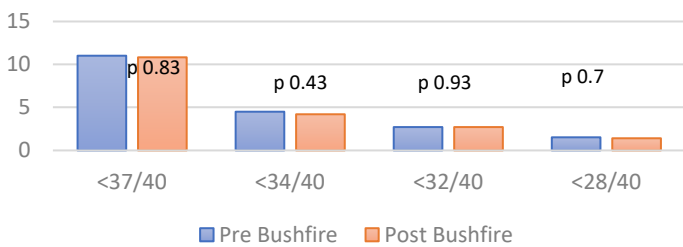
## Methods

A retrospective audit was performed on all patients at Centenary Hospital for Women and Children around the time of the black summer bushfires. Patients were separated into a pre-exposure group (1 January 2018–30 June 2019) and post-exposure group (1 January 2020-30 June 2021). Maternal and neonatal information was gathered.

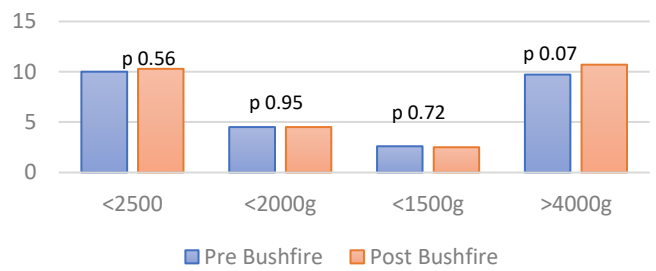
## Results

5315 and 5266 pregnancies were identified in this period. There was no significant difference in average gestation of birth or preterm birth rates. Similarly, no difference was seen in birth weight as an average or when separated to <2500g <2000g <1500g but there was a trend towards large for gestational age babies in the exposed group >4000g OR 1.12 (p=0.07). There was a significant increased caesarean sections rate OR 1.12 (p=0.03) in the exposed group. There was an increased risk of PPH >500mL and >1000mL in exposed group OR 1.12 (p=0.003) and 1.19 (p=0.004). There was a trend for fewer elevated neonatal arterial lactates >6 and >10 (p = 0.06 and 0.02) but this was difficult to assess as there was a large number of neonates (>50%) that did not have cord gases. There did not appear to be any difference in neonatal Apgar, pH or incidence of maternal hypertensive disorders

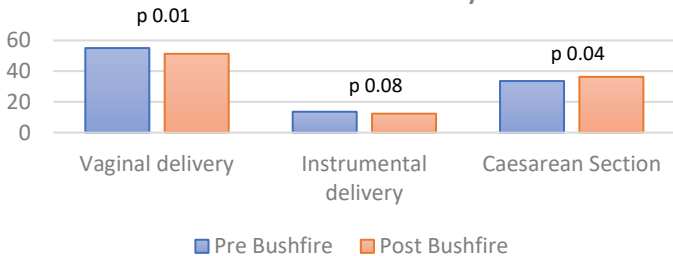
Gestation



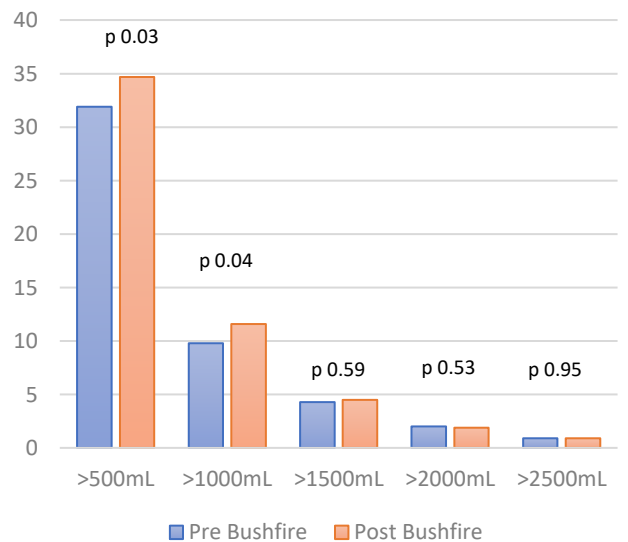
Birth weight



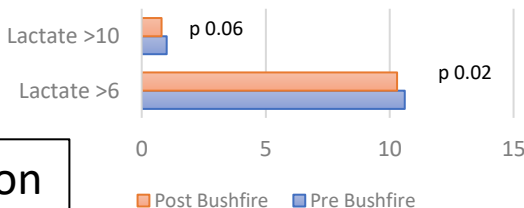
Mode of Delivery



Estimated Blood Loss



Neonatal Arterial Lactate



## Conclusion

Exposure to bushfire smoke seen in Australia's Black Summer did not appear to result in significant neonatal outcomes. but there did appear to be an increase in post partum haemorrhages in the audited time period.