

# Perinatal analgesia and birth outcomes in a tertiary hospital

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## Introduction

- Pharmacological pain relief for perinatal care is commonly used, especially in tertiary settings.
- Previous research has suggested pain relief in labour may influence maternal and foetal birth outcomes [1][2]
- The present study examined the prevalence of intrapartum analgesia use and some associated maternal and foetal outcomes.

## Methods

A retrospective clinical audit on women admitted to the postnatal ward during July 2018 at a major tertiary hospital was conducted to collect data (n=118).

## Results

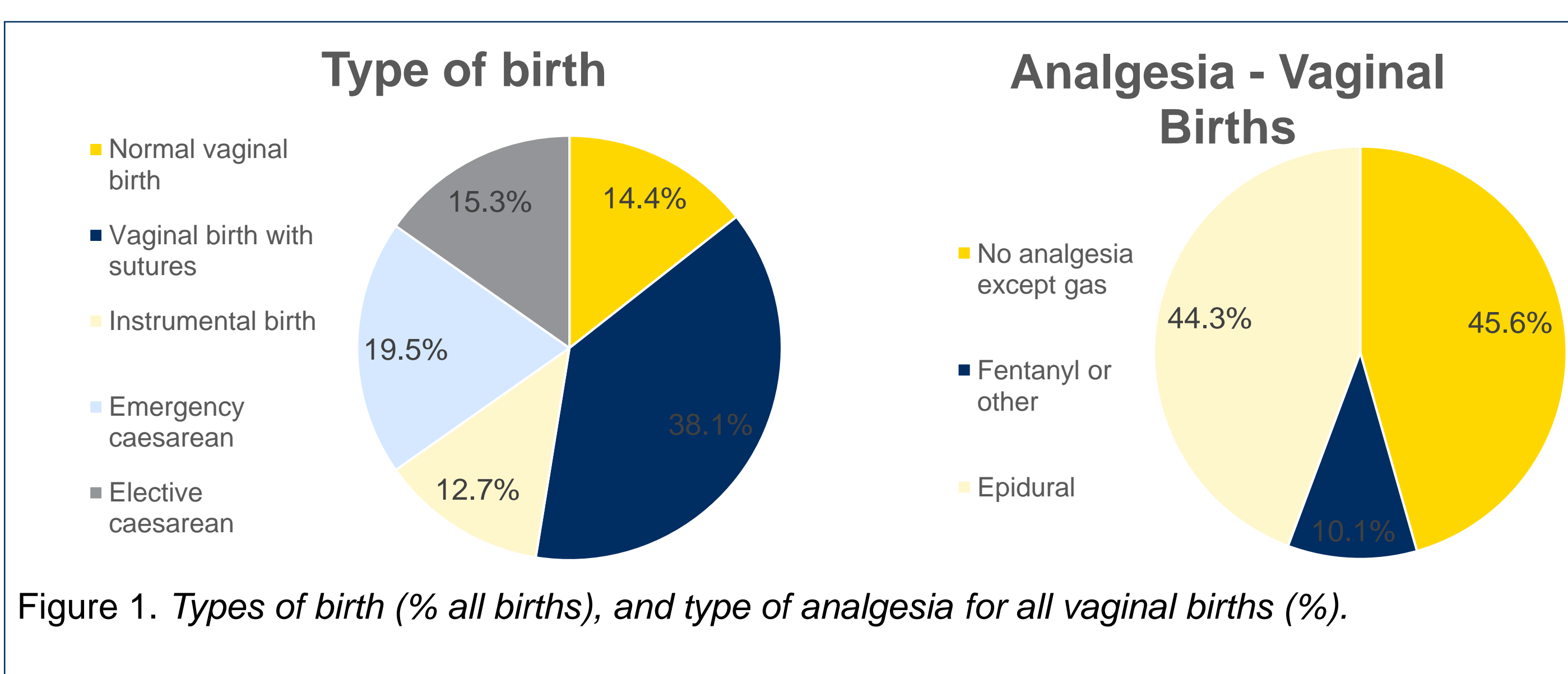


Figure 1. Types of birth (% all births), and type of analgesia for all vaginal births (%).

Table 1. Mean length of Stage 1, Stage 2 and total labour time in minutes (standard deviation in brackets) by labour analgesia.

	Stage 1	Stage 2	Total
None/gas	290.5 (514.9)	24.6 (31.9)	328.0 (513.2)
Fentanyl/other*	418.8 (292.3)	51.4 (33.1)	478.8 (297.2)
Epidural	375.3 (203.4)	57.0 (51.4)	441.5 (222.3)

\* included morphine, fentanyl, oxycodone, panadeine forte

- Mean length of Stage 1 and total length of labour did not differ significantly,  $p > .05$ .
- Mean length of Stage 2 labour differed significantly between the three groups,  $p = .001$ .

Table 2. Intervention outcomes for each analgesia group.

	Normal vaginal birth	Vaginal birth requiring sutures	Instrumental birth
None/gas	30.6%	58.3%	11.1%
Fentanyl/other	12.5%	50.0%	37.5%
Epidural	15.1%	60.6%	24.2%

Intervention outcomes differed significantly between the groups,  $p < .001$ . Rates of births with perineal tears requiring suturing were similar for all groups, however rates of instrumental births were notably higher for the epidural and fentanyl/other groups than for the none/gas group.

## References

1. Anim-Somuah, M., Smyth, R.M., Cyna, A.M., Cuthbert, A., 2018. Epidural versus non-epidural or no analgesia for pain management in labour. The Cochrane database of systematic reviews, 5(5), p.CD000331.
2. Törnell, S., Ekéus, C., Hultin, M., Håkansson, S., Thunberg, J., & Högberg, U.. 2015. Low Apgar score, neonatal encephalopathy and epidural analgesia during labour: a Swedish registry-based study. Acta Anaesthesiologica Scandinavica, 59(4), pp.486–495.

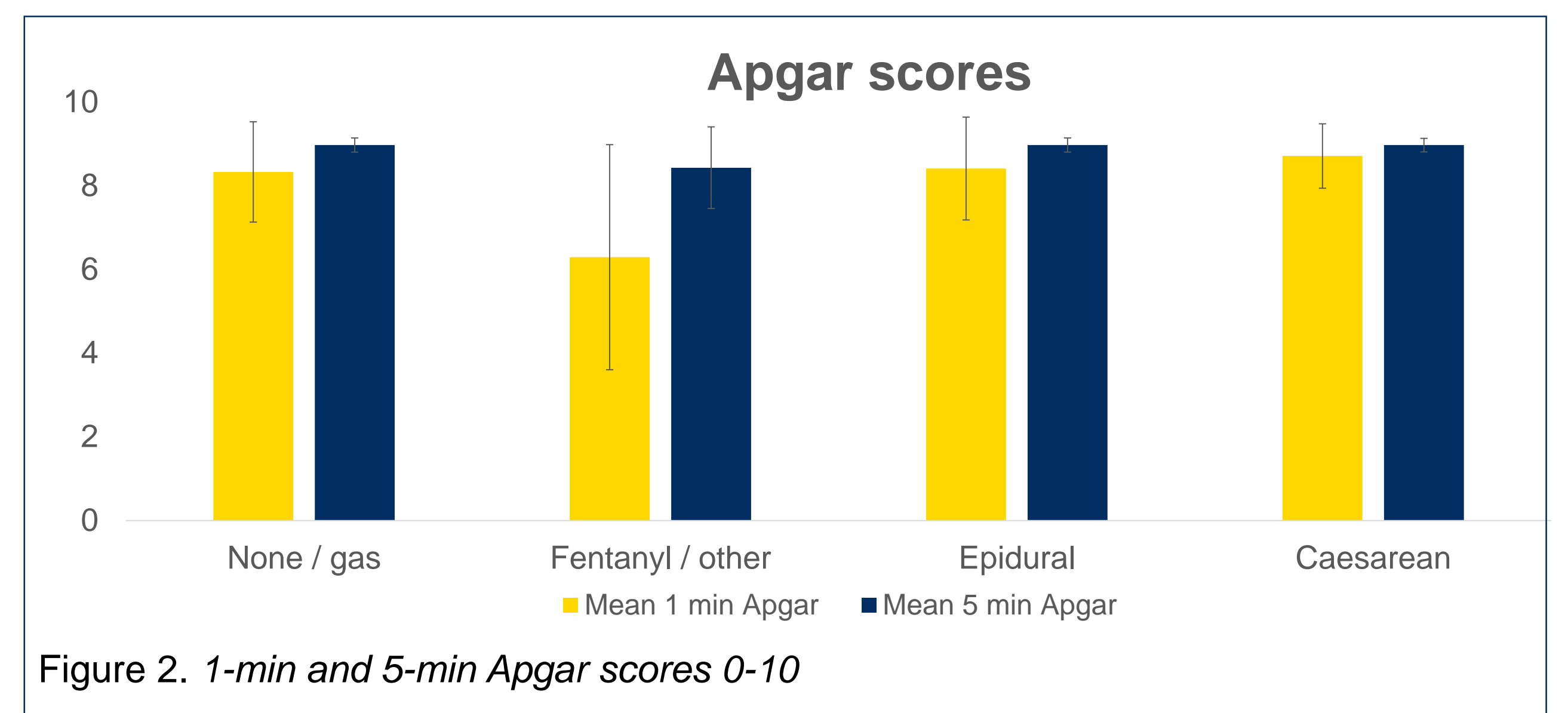


Figure 2. 1-min and 5-min Apgar scores 0-10

- The 1-minute Apgar scores differed significantly between the groups,  $p < .001$ .
- Fentanyl / other group: small sample size, with three babies having very low 1-min Apgar scores due to complications likely unrelated to analgesia.
- Differences between the other three groups were not statistically significant ( $p > .05$ ).
- The mean 5-minute Apgar scores were similar for all groups.

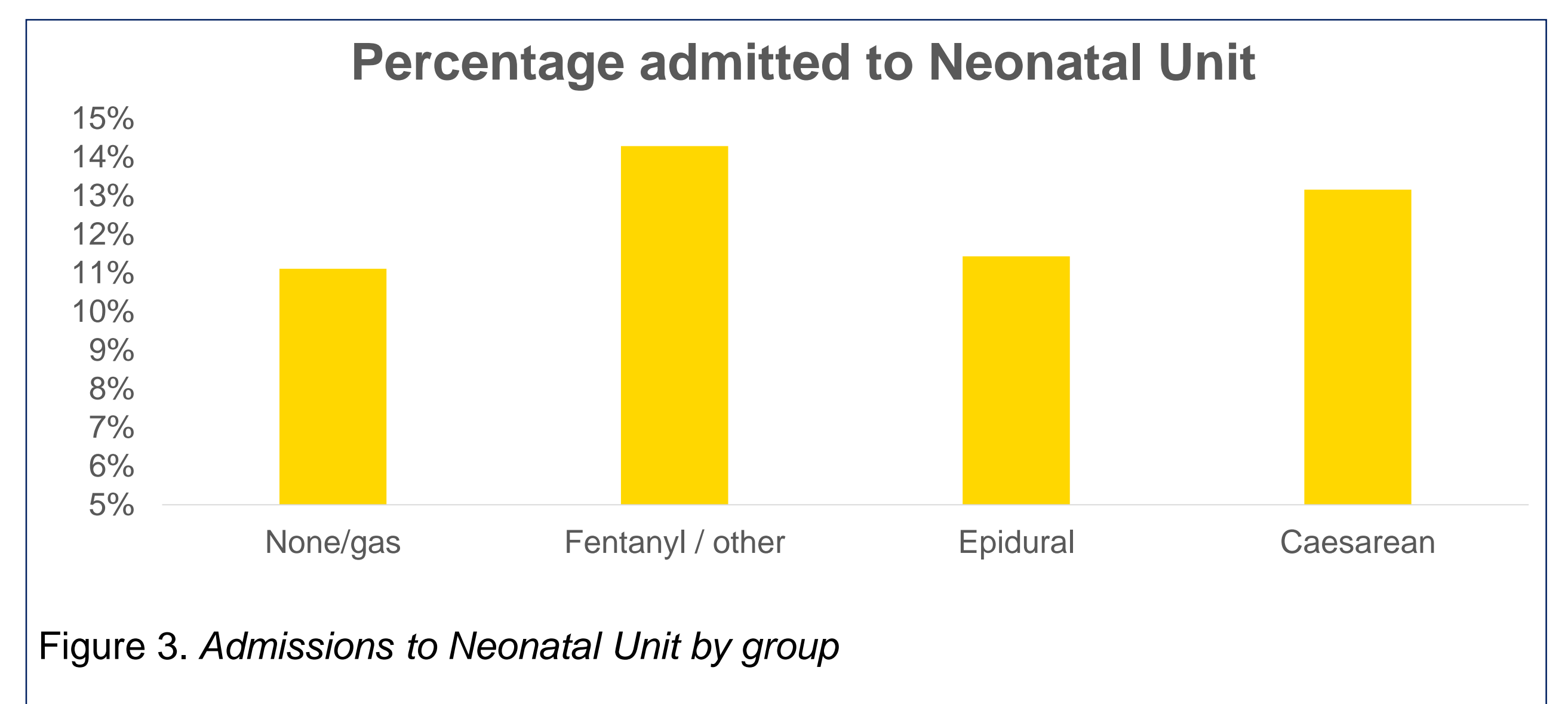


Figure 3. Admissions to Neonatal Unit by group

Neonatal Unit admissions were not significantly different between groups,  $p > .05$ .

## Conclusions

- These results suggest women can feel comfortable that epidural anaesthesia is unlikely to be associated with higher rates of adverse foetal outcomes compared other forms of analgesia or no analgesia.
- Epidural and opioid analgesia may be associated with longer labour and higher rates of instrumental birth.
- However, the contributors to longer labour and higher rates of instrumental birth are multifactorial, and length of labour tends to vary considerably between women regardless of choices about analgesia.
- More research into these factors that may contribute to these outcomes (e.g. induction of labour, malposition, parity) would be beneficial.

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