

Does Ethnicity Influence the Rate and Duration of Labour?

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Introduction

Since the development of Friedman’s labour curve in 1954¹, studies around the world have shown that ethnicity influences labour duration.² Yet, despite Australia’s diverse multicultural population, no studies have analysed labour duration and ethnicity breakdown in Australia, particularly in our Australian Aboriginal and/or Torres Strait Islander population.

This study analyses the effect of ethnicity and parity on rate of dilation, duration of first stage of labour, requirement for oxytocin and induction. It aims to assess whether we need to alter parameters of labour management in different population groups.

Method & Design

A retrospective cohort study involving 2086 patients.

Inclusion Criteria:

- <= 35 years
- Term
- Singleton
- Vertex presentation
- Vaginal deliveries

Exclusion Criteria:

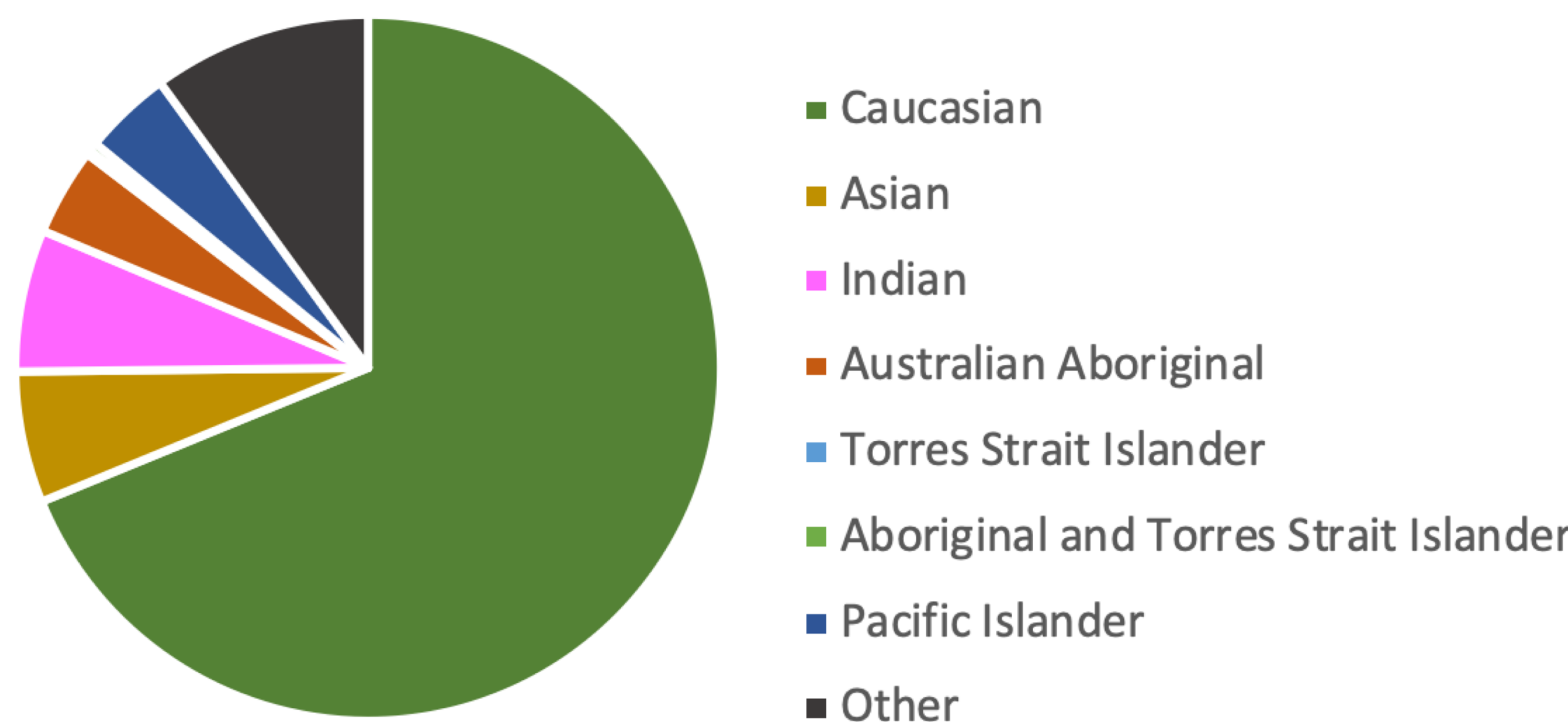
- Assisted deliveries
- Instrumentation
- Caesarean sections
- Malpresentation

Primary outcomes analysed:

Analysis of effect of ethnicity and parity (primipara, multi-para, grand multi-para) on

1. Rate of cervical dilation (cm/min)
2. Duration of first stage of labour
3. Rates of induction
4. Rates of oxytocin use

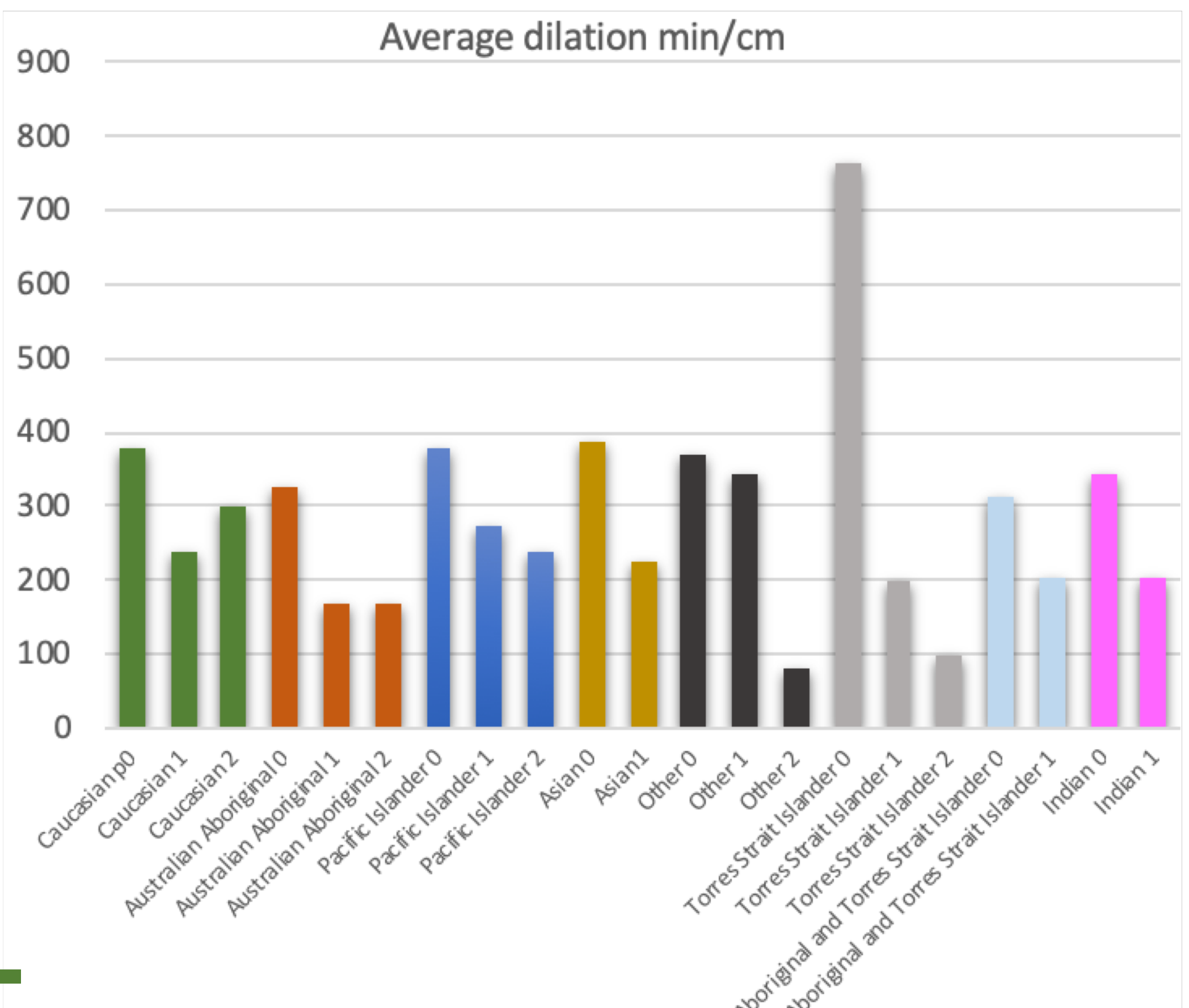
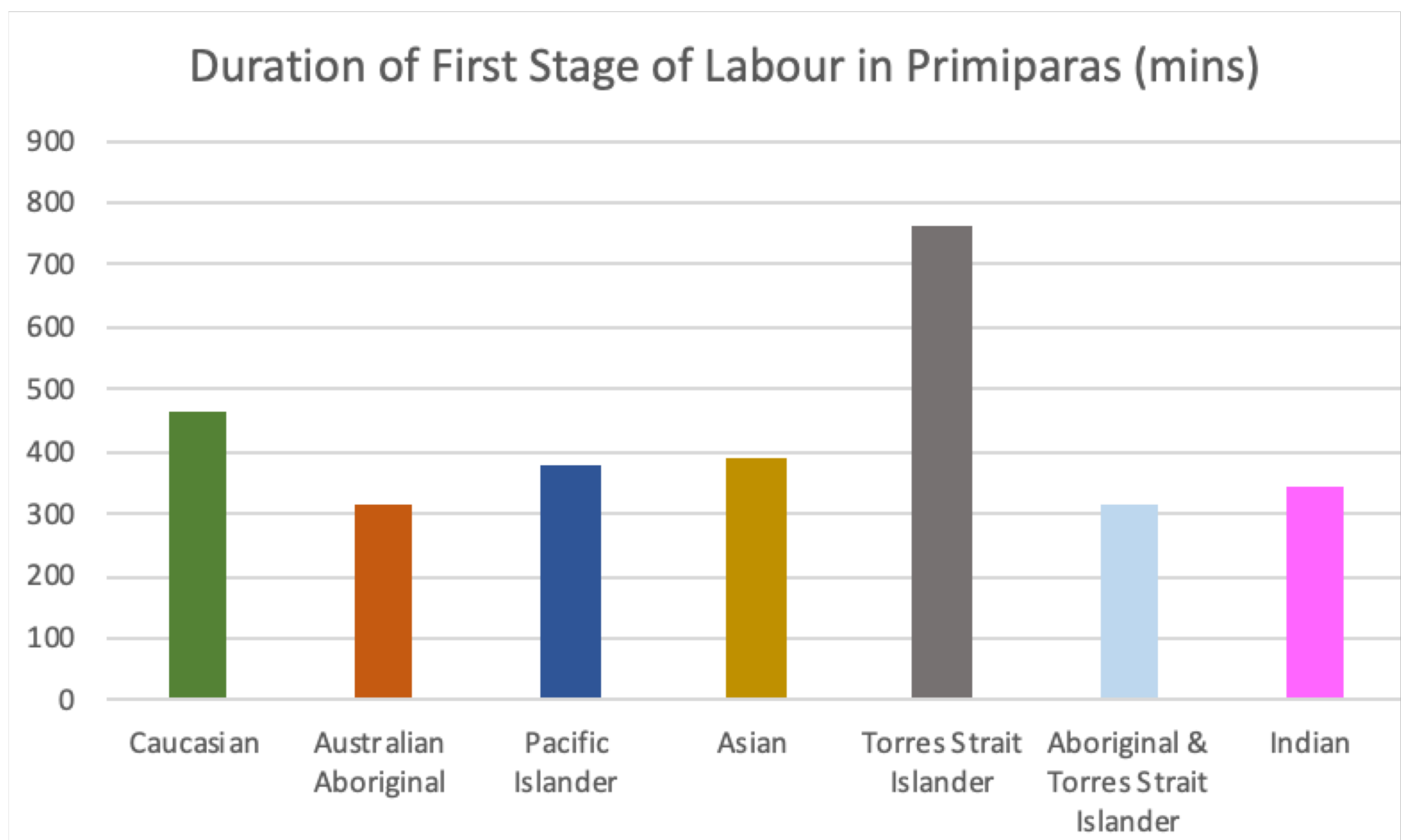
Ethnicity Representation in Data Set



Results & Discussion

Ethnicity breakdown of the data set showed Caucasians (68.6%), Asians (6%), Indians (6.5%), Australian Aboriginals (4%), Torres Strait Islanders (TSI) (0.2%), both Aboriginal and Torres Strait Islanders (ATSI) (0.4%), Pacific Islanders (PI) (4%) and other (10%). Amongst primiparas, Pacific Islanders (93mins/cm) and Torres Strait Islander (382min/cm) patients had the slowest rate of cervical dilation, with the fastest rate amongst Aboriginal (56mins/cm) and Aboriginal & Torres Strait Islander patients (53mins/cm). Similarly, amongst all ethnicities and parities, Pacific Islanders (71.5mins/cm) and Torres Strait Islanders (97mins/cm) had slower rates of cervical dilation. For primiparas, TSI and other ethnicity groups had the longest durations for S1.

Oxytocin use was most prevalent amongst TSI of all parities (80%) and Indian primiparas (68.4%). Amongst primiparas, induction rates were highest in ATSI (50%) and PI (48%) patients. In all parities TSI (55.67%) and Aboriginal (43%) patients had the highest average rates for induction.



Conclusion & Further Research

Torres Strait Islander and Pacific Islander patients could be offered longer durations of labour compared to their counterparts. However, further studies with a much larger Pacific Islander and Torres Strait Islander population representation are needed to further support these findings and changes to labour ward management of these population groups.

(1) Friedman EA. The graphic analysis of labor. *Am J Obstet Gynecol.* 1954;68(6):1568-1575. Doi:[https://doi.org/10.1016/0002-9378\(54\)90311-7](https://doi.org/10.1016/0002-9378(54)90311-7).
(2) Greenburg M, Cheng Y, Hopkins L et al. Are there ethnic differences in the length of labour? *Am J Obstet Gynecol.* 2006;195(3):743-8. doi:10.1016/j.ajog.2006.06.016.