

Trends in Twin Birth: An analysis of 33 years of twin deliveries in Victoria.

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Background

In Australia one in three babies are born by caesarean delivery (CD)¹. While there has been much attention on factors influencing CD in singleton pregnancies, there has been less focus on twin births. We sought to describe the trends in the mode of twin births in Victoria.

Aim

To examine the trends in the mode of delivery for twins over time in Victoria and to explore factors contributing to any trends.

Methods

We derived twin birth data from the Victorian Perinatal Data Collection for all twin births in Victoria between January 1, 1983 and December 31, 2015 (n=64,374). Each mode of delivery was expressed as a percentage of total twin birth that year and then plotted over time to give the trends in mode of delivery. Indications for CD was derived from ICD 9 and ICD 10 codes recorded for each birth. Further analysis of indications stratified data by maternal factors. Trends in gestational age at time of planned CD were also explored. Data were analysed using IBM SPSS statistics 25 software.

Results

There were 64,374 twin births in Victoria from 1984-2015, averaging 2012 per year. Overall, the vaginal birth rate decreased from 76% in 1983 to 29% in 2015. This was due to increases in both the planned and unplanned CD rates, which tripled from 13% to 42% and from 11% to 29% respectively (figure 1). Figure 2 summarises the trends in indications for planned and unplanned CD. Figure 3 details the indications for planned CD stratified by maternal factors. There was also a trend towards planned CD at earlier gestation (figure 3) with significant regional variations (figure 4) between the years 2009 and 2015.

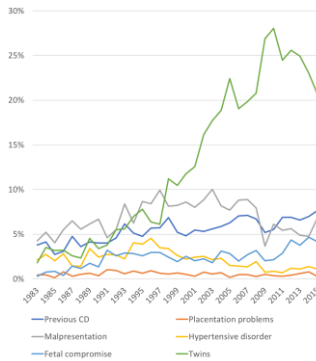


Figure 2A. Trends in indications for planned CD between 1983 and 2015

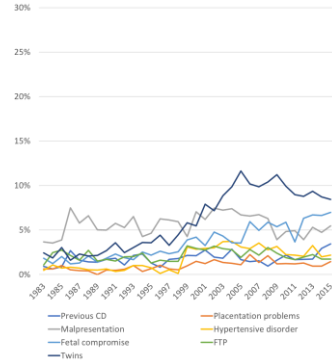


Figure 2B. Trends in indications for unplanned CD between 1983 and 2015

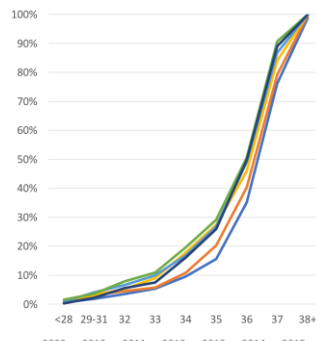


Figure 3. Cumulative gestational age of twin birth between 2009 and 2015

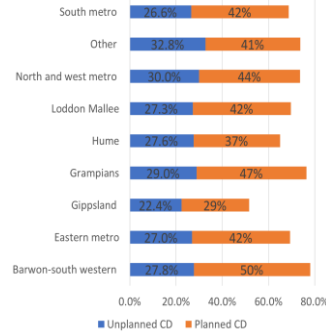


Figure 4. Regional differences for twin CD between 2009 and 2015

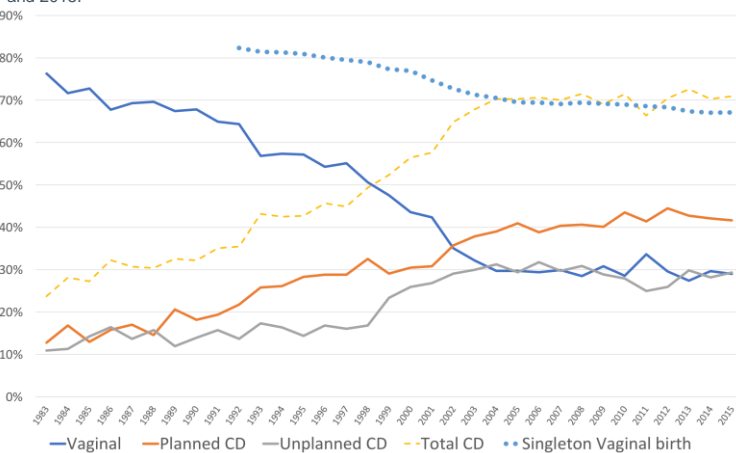


Figure 1. Trends in mode of delivery for twins 1983-2015

Summary and discussion

Over the past 33 years there have been significant changes in the modes of birth for twin pregnancies in Victoria, with a three fold increase of the CD rate, due to increases in both planned and unplanned CD between 1983 -2004. The increase in planned CD rate was mainly due to an emergent preference for CD for twins and, in women of advance maternal age, also due to prior CD. This preference of CD for twins is particularly pronounced in nulliparous women. In addition, increase in unplanned CD rate was in part due to increase in fetal compromise as an indication, principally fetal growth restriction. There has been no change in the rates of vaginal and CD births in twins over the past 10 years. However, there has been a progressive shift to birth at an earlier gestation with regional variation in CD rates.

¹Australian Institute of Health and Welfare 2017. Australia's mothers and babies 2015—in brief. Perinatal statistics series no. 33. Cat no. PER 91. Canberra: AIHW.

Figure 4. Regional differences for twin CD between 2009 and 2015

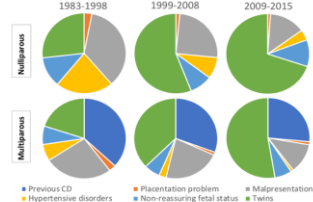


Figure 5a. comparison of changes in planned CD indications over time between nulliparous and multiparous women

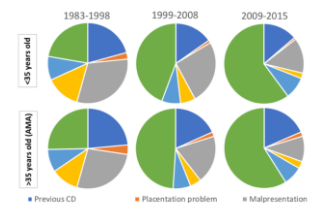


Figure 5b. comparison of changes in planned CD indications over time between women >35 and <35 years old.