

## Introduction:

Induction of labour is the artificial stimulation of uterine contractions to initiate labour. [1] Labour can be induced when the benefits to either the woman or the foetus outweigh those of continuing the pregnancy. It can be achieved with cervical ripening, manipulation of the amniotic membranes, or intravenous oxytocin administration [2]. In our clinic, Dilapan, Cervidil, or Cook's cervical ripening balloon can be used for cervical ripening, and prostaglandins or oxytocin infusion can be given to bring about uterine contractions. When labour induction fails, other interventions must take place and the woman may need a Caesarean section delivery.

## Objectives:

The aim of this study is to evaluate labour induction in our clinic in Olomouc in the first 6 months of 2021.

## Methodology:

Data about the births in our clinic were recorded daily, containing information about the number of deliveries, reasons for induction, sex of the baby, APGAR score, and the deliveries that culminated in Caesarean section delivery. These data were then collected and analysed.

## Conclusion:

Our study shows that 22.30% of the labours in Olomouc were induced. This appears to be in line with other studies carried out in different countries, such as in Australia (26.00%) [3], England (23.30%) [4], and the USA (23.30%) [5]. The main reasons for labour induction are gestational diabetes, post maturity and gestational hypertension and the most common complications were hypoxia, prolonged 3<sup>rd</sup> stage of labour and shoulder dystocia. This data is also in line with world literature, however, further studies with larger cohorts must be done to provide more data.

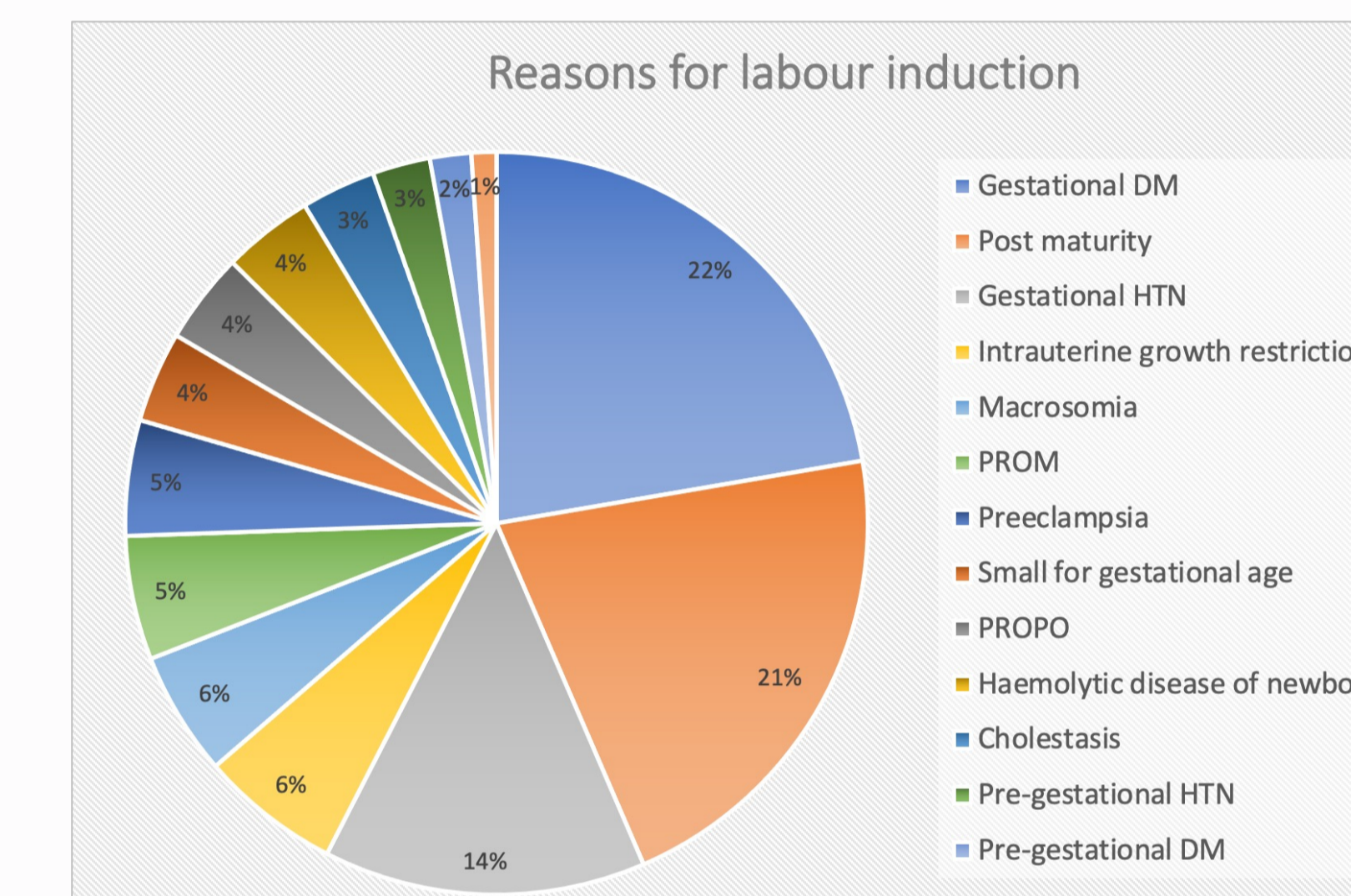
## References:

- [1] WHO. *WHO Recommendations for Induction of Labour*. Geneva, Switzerland: WHO Press, 2011.
- [2] American College of Obstetricians and Gynecologists., & Beckmann, C. R. B. (2014). *Obstetrics and gynecology* (7th ed.). Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins.
- [3] Li ZZR, Hilder L, Sullivan EA. *Australia's Mothers and Babies, 2011*. Perinatal statistics series no. 27. Cat. No. PER 57. Canberra: AIHW National Perinatal Epidemiology and Statistics Unit, 2013.
- [4] NHS Information Centre (NHS IC). *NHS maternity statistics 2011-12 summary report*. Leeds: Health and Social Care Information Centre, Hospital Episode Statistics.
- [5] Osterman MJ, Martin JA. *Recent Declines in Induction of Labor by Gestational age*. NCHS Data Brief No. 155. Hyattsville, MD: National Centre for Health Statistics, 2014.

## Results:

In our clinic there were 2441 deliveries in 2021, with 1206 of them being in the first 6 months. Of this number, there were 269 induced deliveries, 147 of which were boys (54.65%), and 122 of which were girls (45.35%). Their mean weight was 3384.33g.

Figure 1: Reasons for labour induction



The main reasons for induction were gestational diabetes (23.05%), post maturity (21.93%), gestational hypertension (14.50%), intrauterine growth restriction (6.32%), macrosomia (5.58%) and premature rupture of membranes (5.58%) [Figure 1].

Labour preinduction was achieved through the use of Cook's ripening balloon, Dilapan or Cervidil, whilst labour induction was carried out via rupturing the membranes, use of prostaglandins like PGE2, as well as oxytocin infusion [Figure 2].

Figure 2: Methods of labour induction

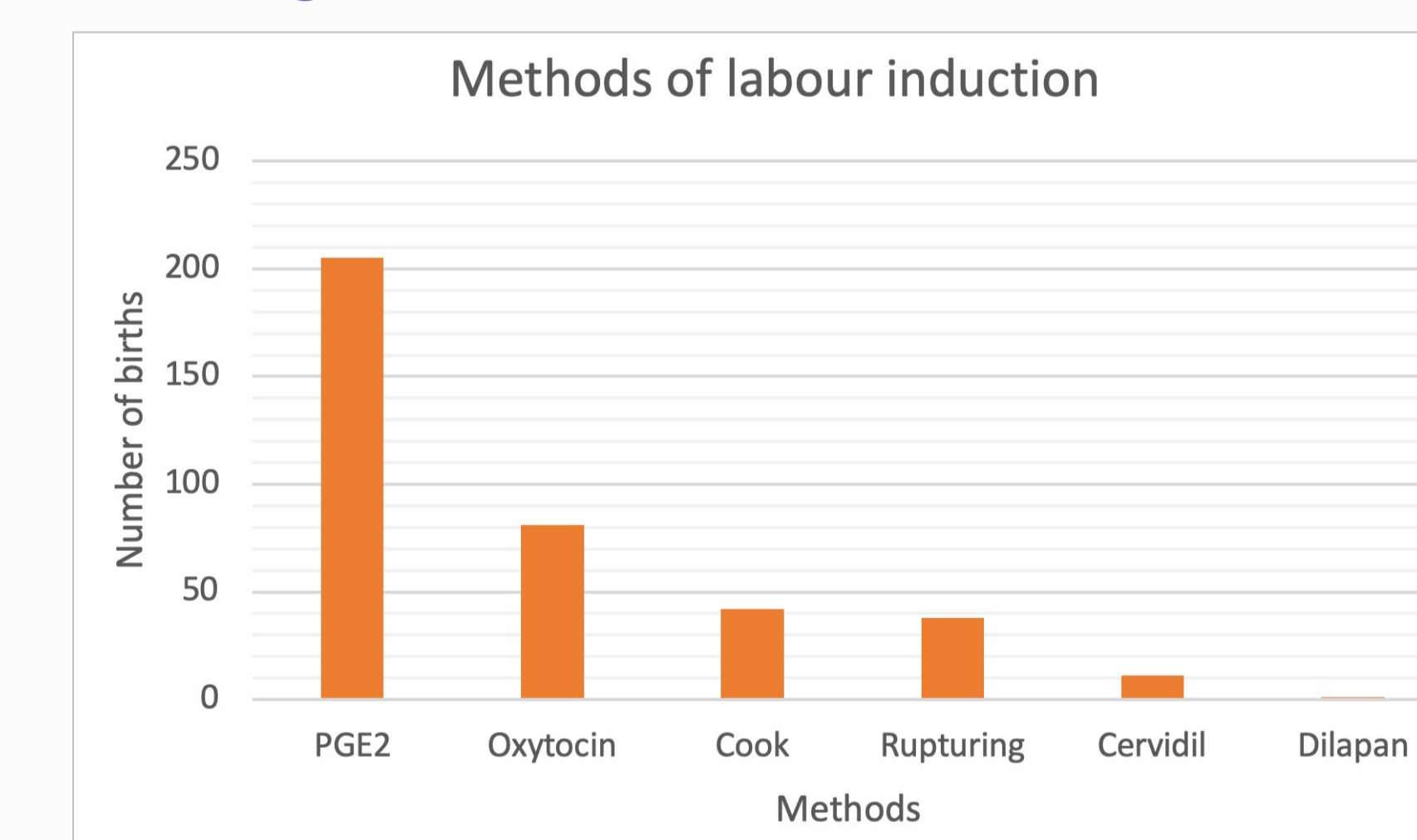
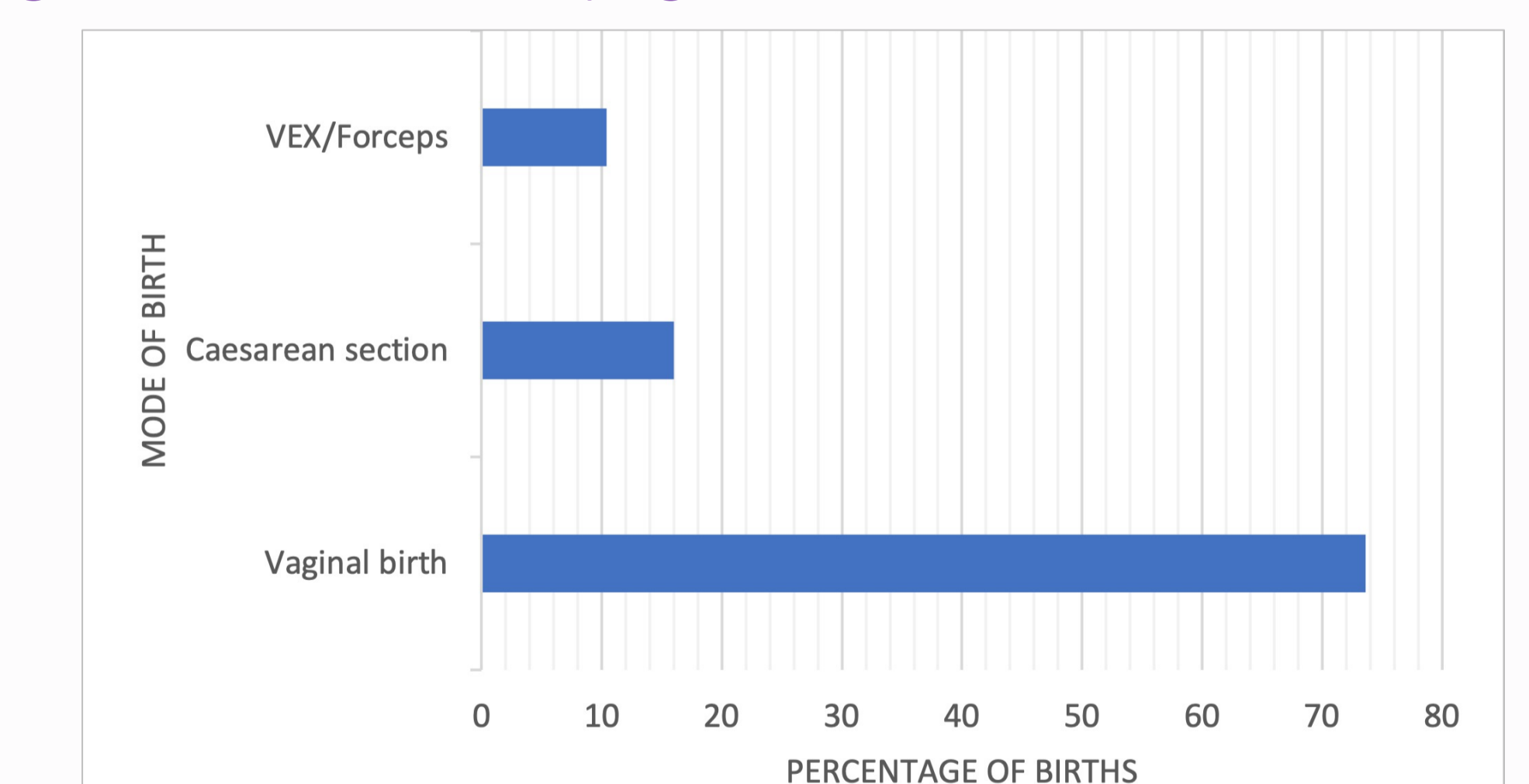


Figure 3: Mode of birth (Vaginal, CS, Vacuum Extraction/Forceps)



We found that the median gestational age for induction was 39+6 weeks with the maximum being 42+2 weeks and the minimum being 29+5 weeks. 43 cases ended in Caesarean section and in 28 cases vacuum extraction or forceps were used [Figure 3].

Reasons for induced labour culminating in Caesarean section delivery were induction failure and hypoxia of the baby. Most common complications included manual removal of placenta due to prolonged 3<sup>rd</sup> stage of labour and shoulder dystocia. The mean APGAR scores of the babies after 1 minute was 9.1, after 5 minutes was 9.7, and after 10 minutes was 9.9.