

Primary Emergency Cesarean Section Audit At Tawam Hospital, U.A.E

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Introduction

Primary cesarean section is defined as cesarean deliveries in women without a prior history of cesarean deliveries. The rate of cesarean section is increasing steadily during the last two decades due to various indications

Objectives

To identify the most common indication and outcomes to minimize the number of primary emergency cesarean delivery at Tawam Hospital. To place the necessary actions to achieve optimal care without affecting neonatal outcomes. To meet the percentage of KPI set by JAWDA ($\leq 12\%$) for primary emergency cesarean section

Methodology

A retrospective review was conducted over a period of six months from 1st of January to 30th June 2021 at Tawam Hospital. Data were retrieved from the electronic medical record using Cerner. Data was entered in excel sheet and analysis was done. All primary emergency cesarean section was analyzed during the reporting period. We excluded abnormal presentation, preterm labour with preterm delivery, fetal death, multiple gestations.

Results and Discussion

A total of 189 patient had emergency primary caesarean out of 770 women delivered during this period. After exclusion criteria we had a total of 88 women. The overall primary rate of caesarean section was 16%.

Majority of our patients were in the age group less than thirty five 73%(64). Around 90%(77) of patients were overweight and obesity. Regarding the parity 44%(39) were primigravida. Around 66%(58) of cases had fetomaternal comorbidities. The most common were premature rupture of membranes 17%(15), gestational diabetes 14%(12) and intrauterine growth restriction. 11%(10). Around 50%(45) of women had enhancement of their contraction either by induction or augmentation. The indication of primary cesarean section among the studied group varied from fetal distress 77%(68), failure to progress 16%(14), cord prolapse 3%(2), macrosomia 3%(3) and abnormal Doppler 1%(1) were the common indications.

Maternal outcome was good only 3%(3) of cases had post-partum haemorrhage. Fetal outcome 9%(8) of babies were macrocosmic and 7%(6) of babies were low birth weight and 98%(86) of the babies had APGAR score of 6 and above at one minute of life.

In our study the rate of primary cesarean section was 16% which is high compared to the JAWDA KPI.

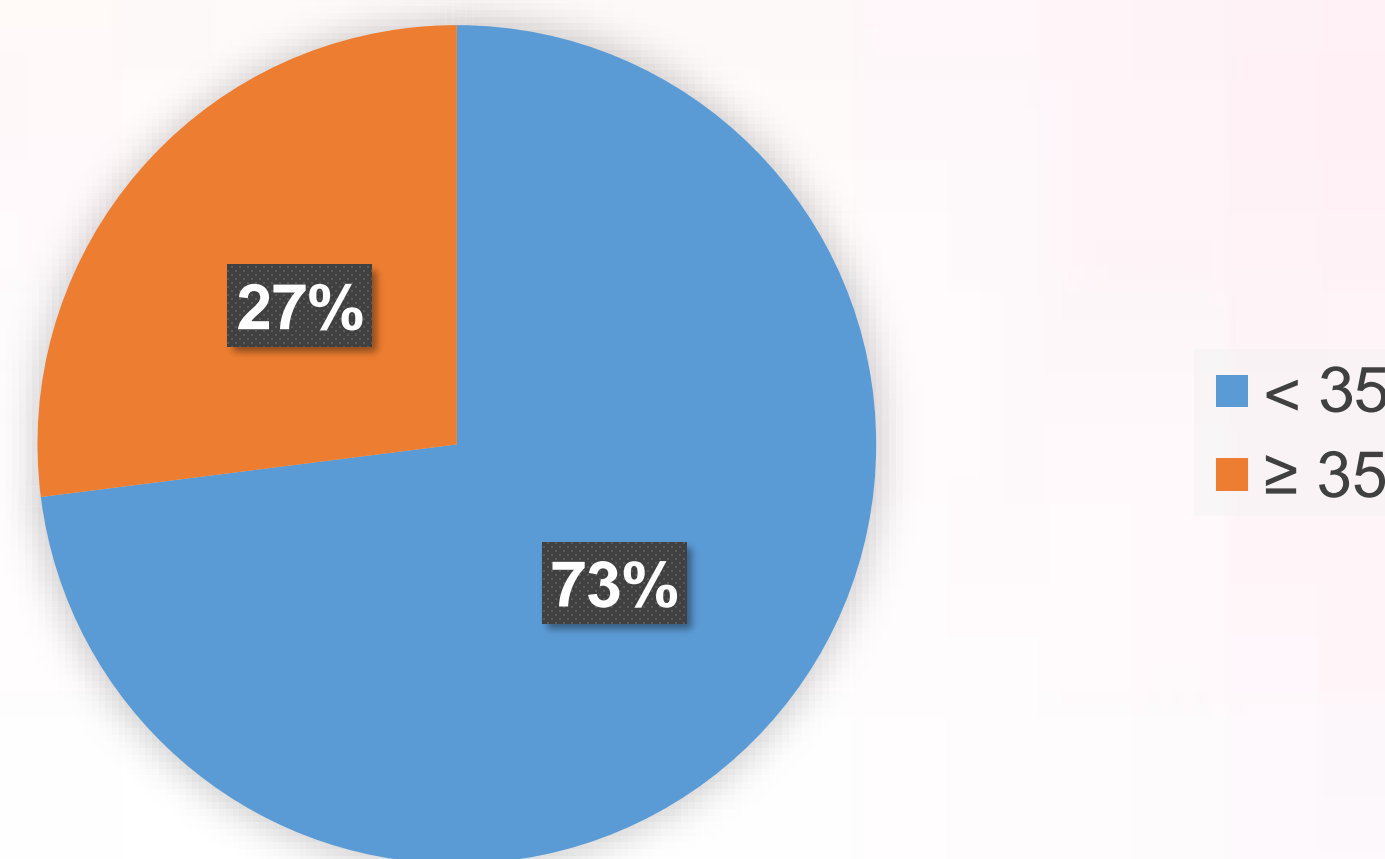
Many studies conducted showed regional variations. According to ACOG clinical guidance study conducted in USA evaluated the role of maternal characteristics, such as age, weight, and ethnicity, have consistently found these factors do not account fully for the temporal increase in the cesarean delivery rate or its regional variations. That study suggested that other potentially modifiable factors, such as patient preferences and practice variation among hospitals, systems, and health care providers, likely contribute to the escalating cesarean delivery rates. On the contrary Dubai study showed increase in primary cesarean delivery rates were explained by changes in maternal characteristics, specifically by changes in age, parity, pre-pregnancy weight, and weight gain during pregnancy.

According to ACOG published in 2014 revealed labor arrest followed by fetal distress was the most common indication whereas as a study conducted in Dubai in 2017 revealed fetal distress 33%, as the most common indication which is corresponding to our audit.

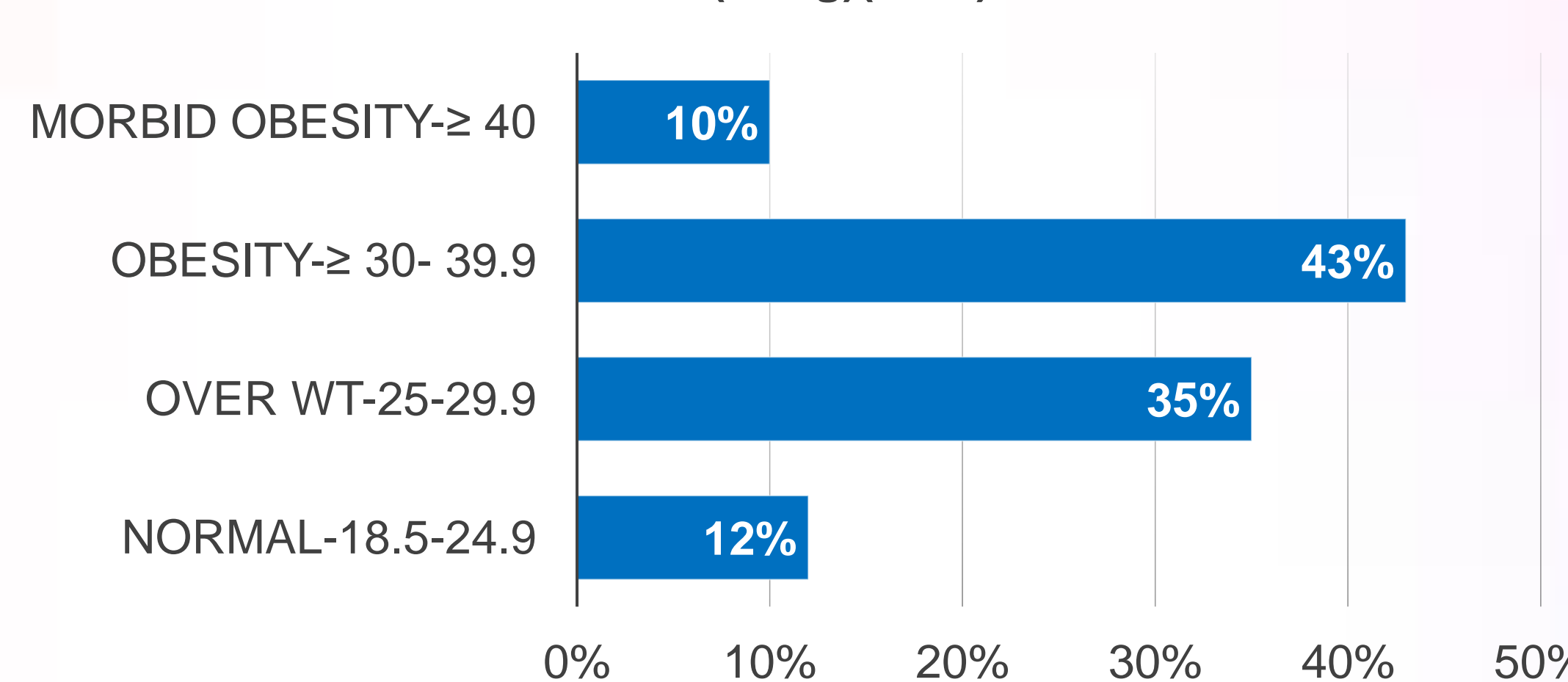
Interestingly Dubai study found that most cesareans was done above 35 years of age (75%) while our audit revealed a conflicting result as (73%) were below the age of 35 years.

KPI #	KPI Definition	Domain	Sub-domain	JAWDA Direction	SEHA Target	Q1 2021	Q2 2021	Q3 2021	Q4 2021	YTD	
MPC011	Emergency Primary Caesarian Section rate	Patient Safety	EBM	LB	12%	17.4%	14.6%	15.4%	15.6%	15.7%	
						Numerator	65	58	72	75	270
						Denominator	373	397	469	480	1,719

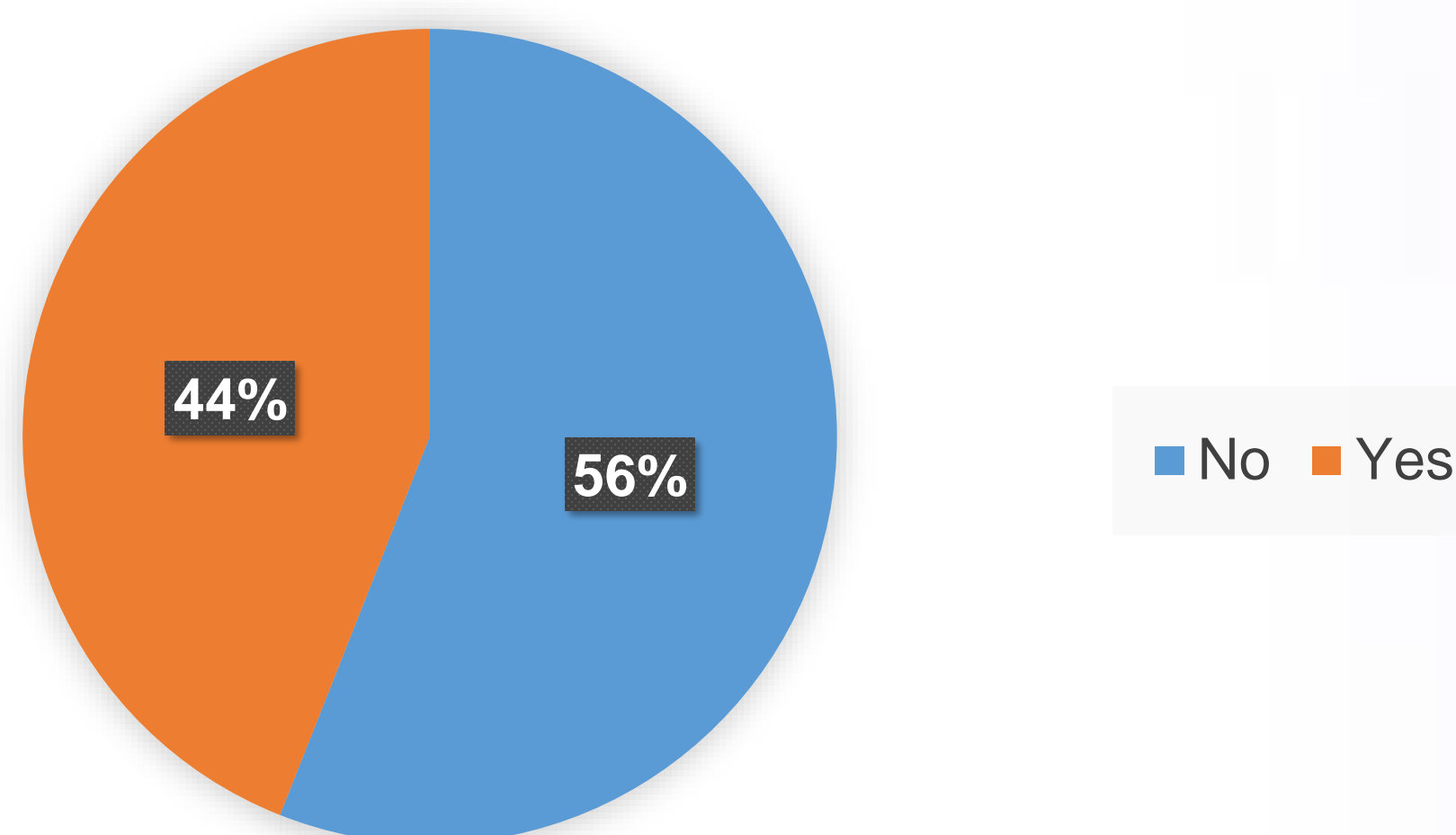
Age (years) (N-88)



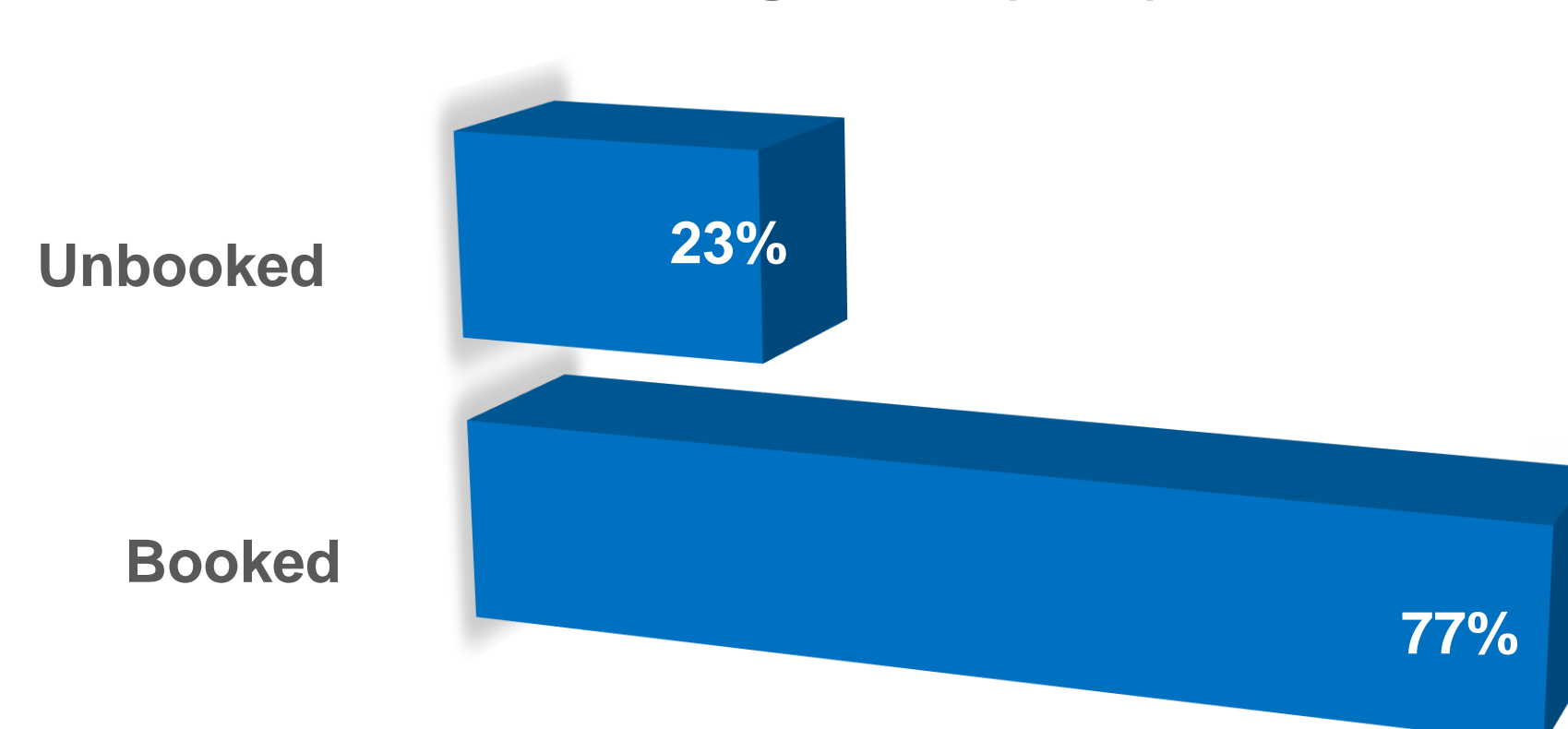
BMI (In Kg)(N-88)



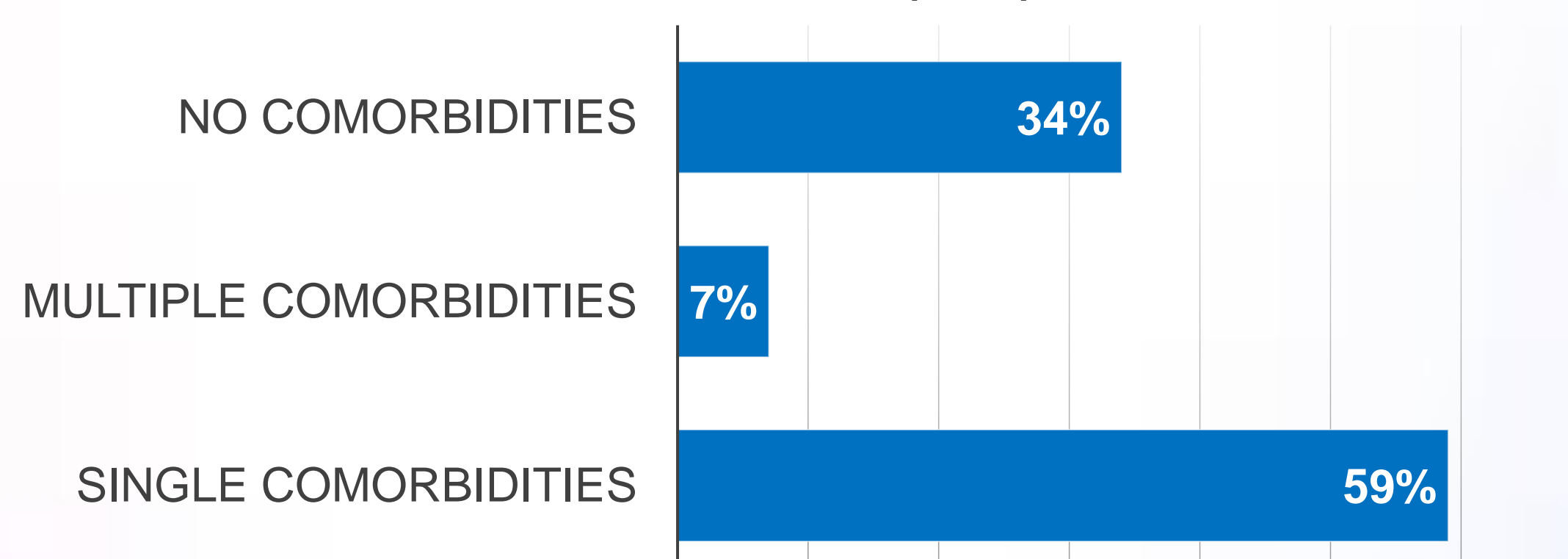
Primi gravida who had C-section (N-88)



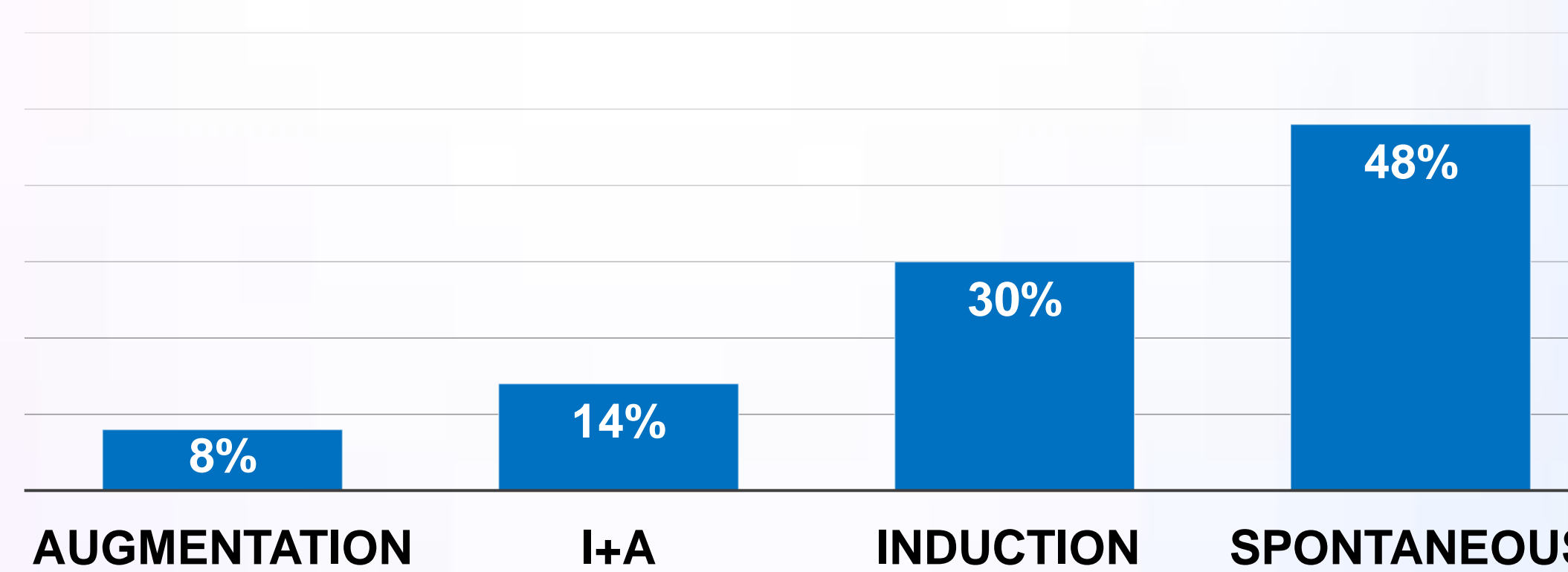
Booking status (N-88)



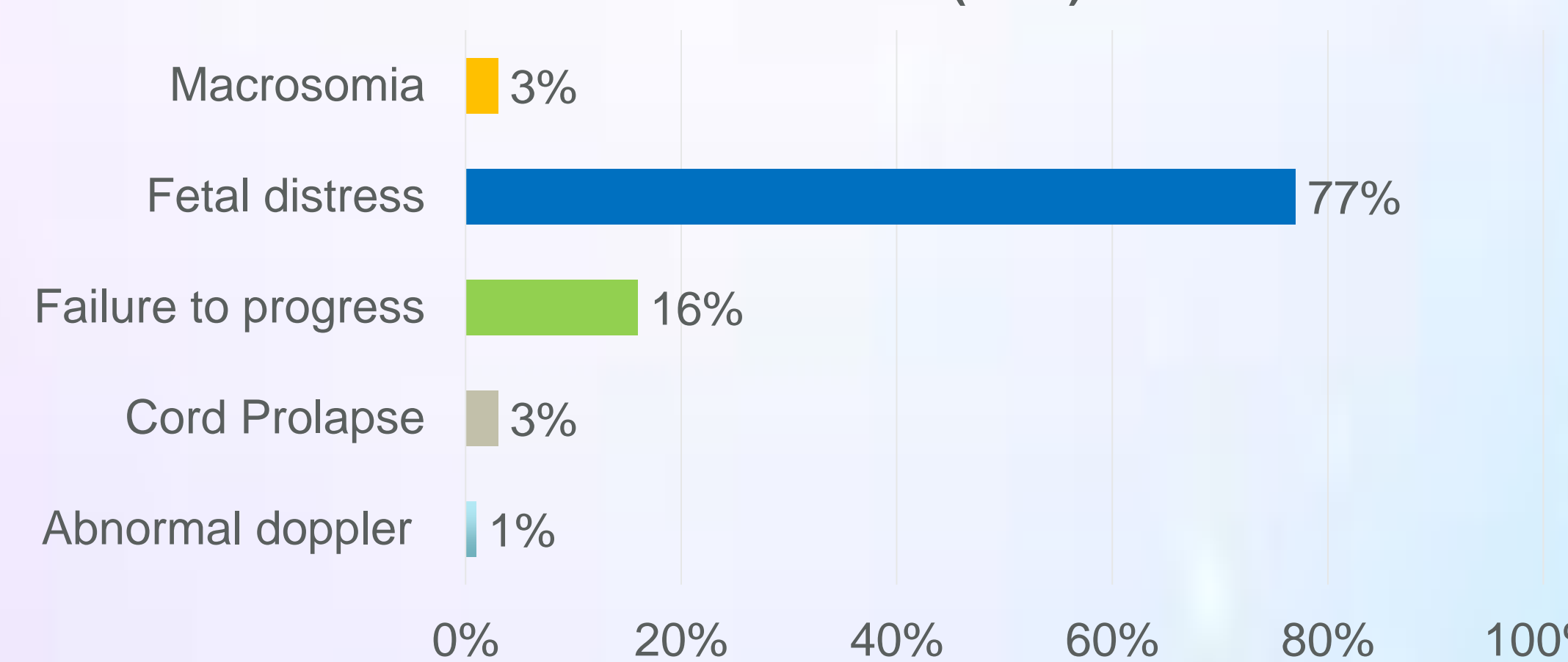
Comorbidities (N-88)



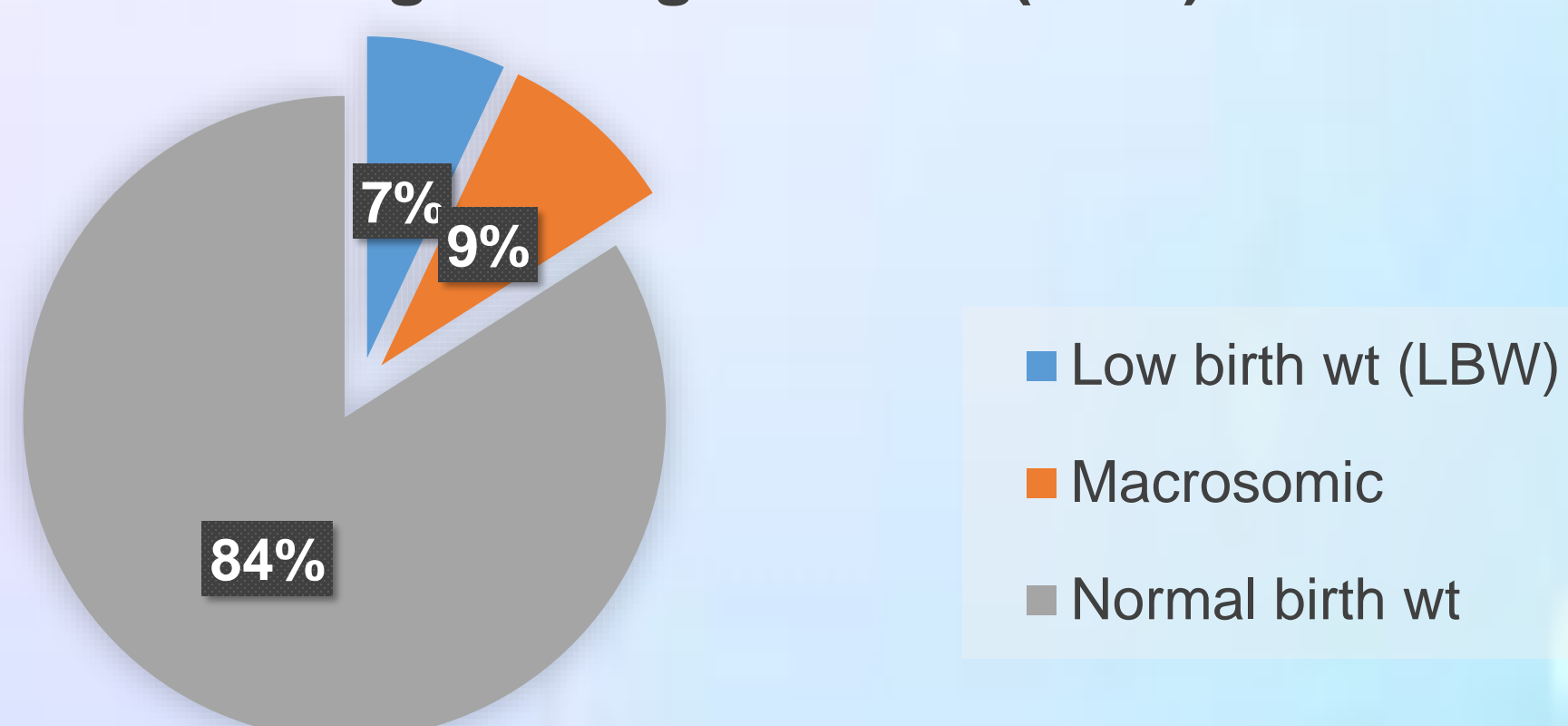
Enhancement of spontaneous contractions (N-88)



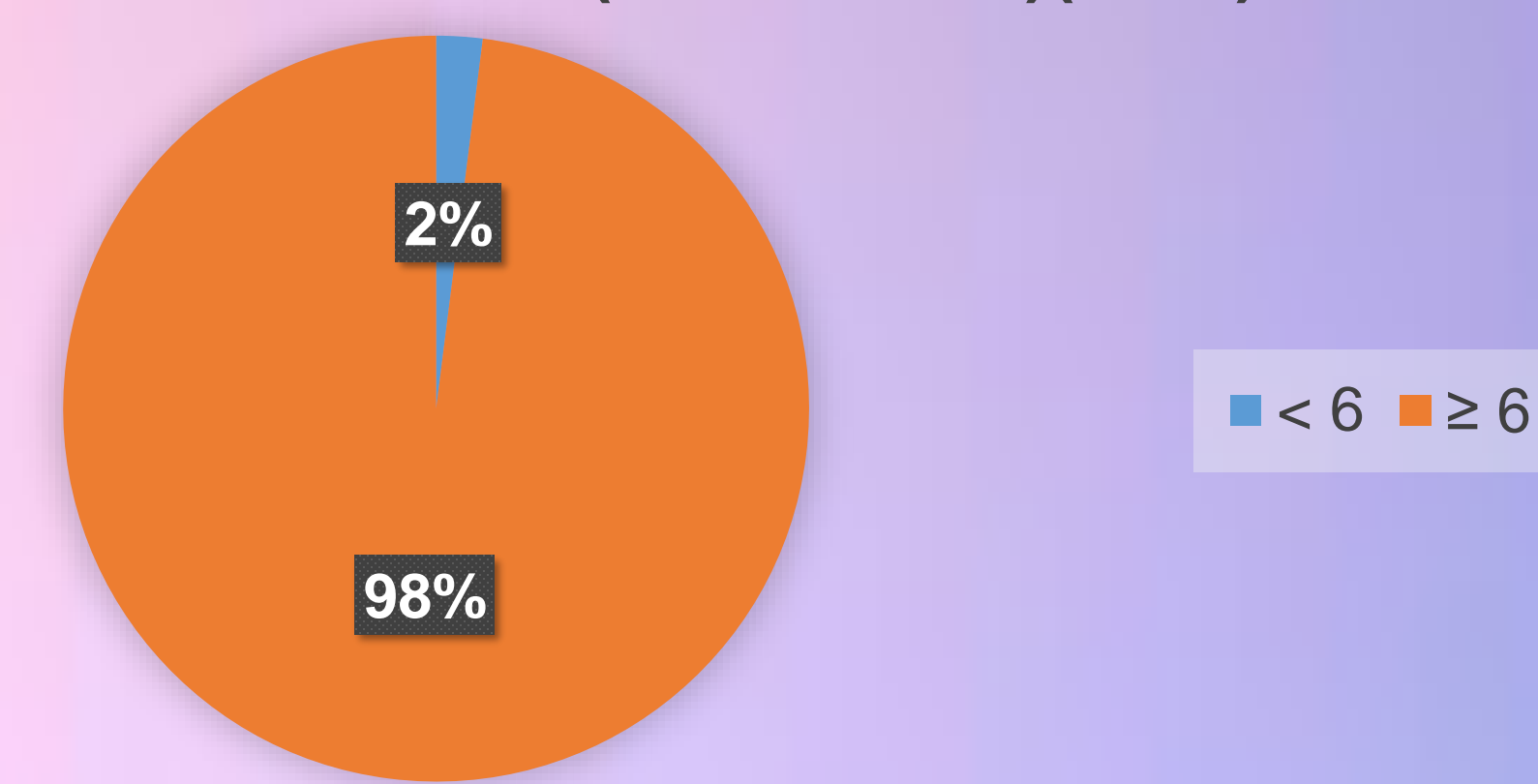
Indication for C/S (N-88)



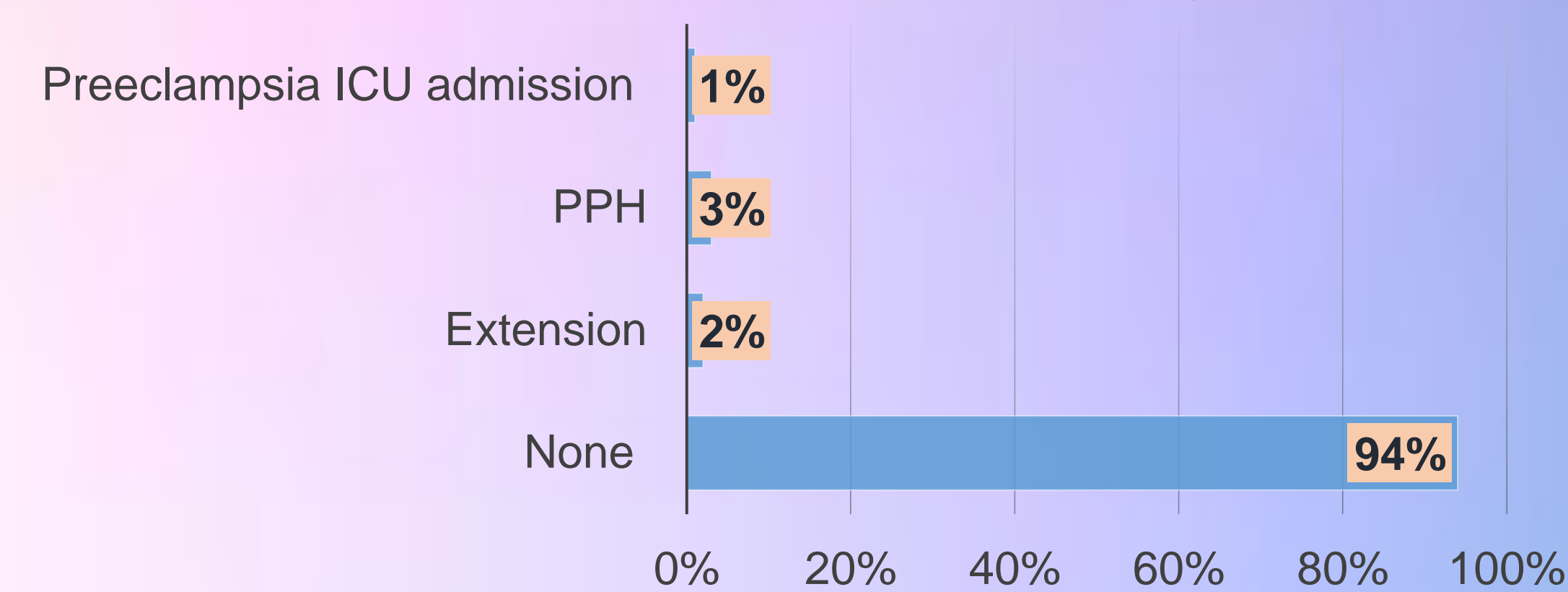
Birth weight categorisation (N-88)



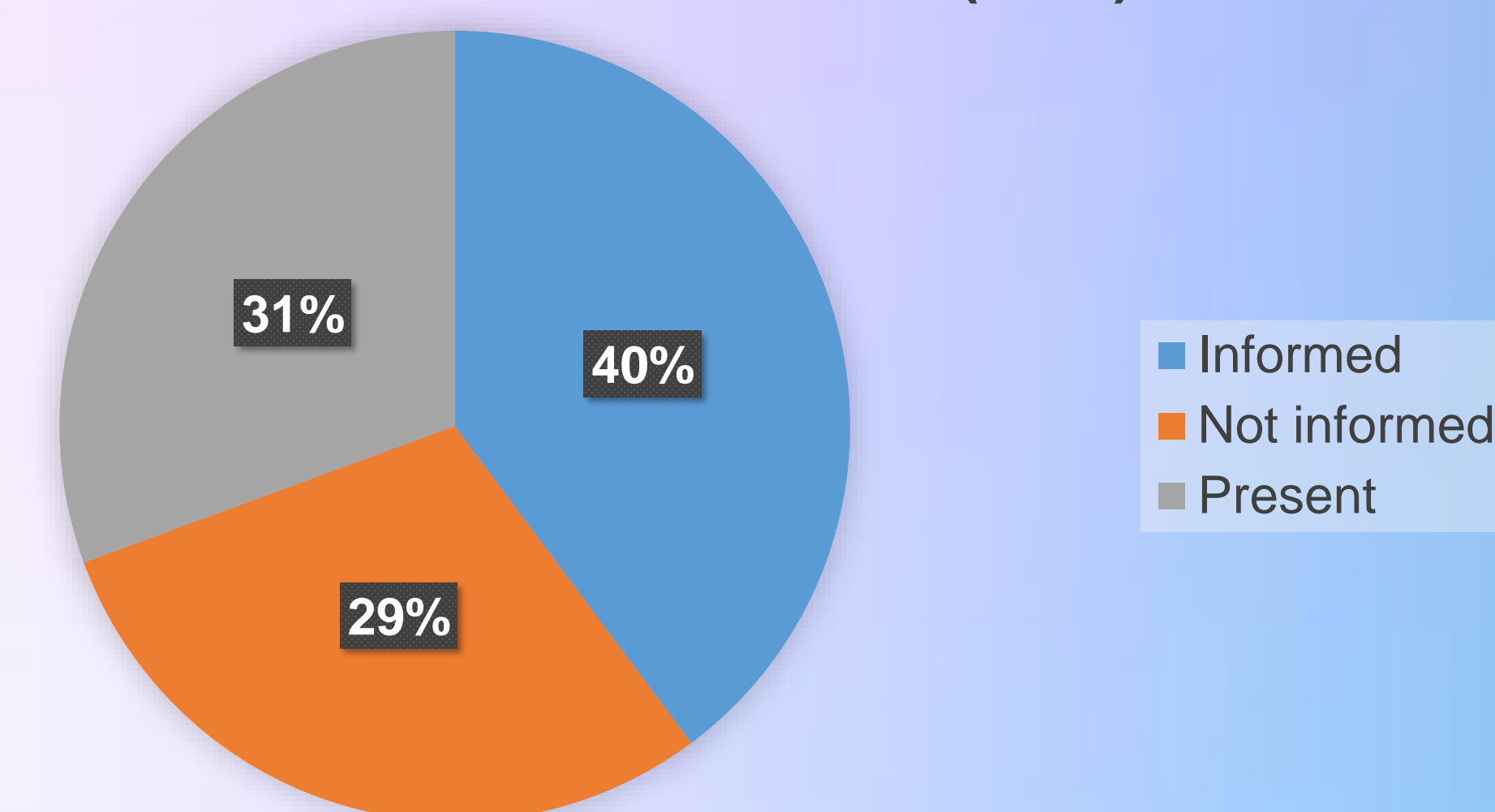
APGAR Classification (at 1 minute)(N-88)



Maternal complications after delivery (N-88)



Involvement of consultants (N-88)



Conclusion

- Primary cesarean sections are the driving force behind the overall rate of cesarean sections and cause an increase in morbidity in future pregnancies in the form of placental abnormalities such as placenta previa and accreta, risk of uterine rupture and repeat cesarean sections.
- Primary cesarean sections have been mainly carried out for fetal distress followed by failure to progress.
- Alarming high rate of cesarean was found in young age group
- Most common fetomaternal comorbidity was premature rupture of membranes, and gestational diabetes.
- Postpartum hemorrhage was the most common maternal complication.
- Through this audit detailed analysis of indications for cesarean have enabled the identification of possible remedial measures which could be adopted to reduce the rapidly rising cesarean rates. With the adoption of these measures, a significant reduction of cesarean rates is expected in the future.

Recommendations

- Reduction in primary cesarean section rate is crucial to reduce the overall cesarean section rate and as a result, minimize maternal morbidity and mortality.
- Senior input and adequate training in the interpretation of CTG are essential to reduce observer error.
- As fetal distress is the major cause of primary cesarean section and a relative term, it should be clearly documented for future audit and research purposes.
- Recommendation to do peer review by the on-call team of the cesarean sections performed in the preceding 24 hours and fortnightly CTG review of primary cesarean section in our department.
- In the future, reaudit primary emergency cesarean section and include second stage cesarean section review.

References

- JAWDA KPI
- Fahad, A. and Makhdoom, T. (2020) The Rate and Indications of Primary Cesarean Section at Dubai Hospital, Dubai Health Authority, Dubai, UAE. *Open Journal of Obstetrics and Gynecology*, 10, 626-633. doi: [10.4236/ojog.2020.1050056](https://doi.org/10.4236/ojog.2020.1050056).
- <https://www.acog.org/clinical/clinical-guidance/obstetric-care-consensus/articles/2014/03/safe-prevention-of-the-primary-cesarean-delivery>