

# Systematic Review of Uterine Herniation During Pregnancy: Clinical Perspectives and Outcomes

Ciara Higley, Susannah Louis, Zia Kuyper, Dr Maryam Abdelkarim, Dr Joshua Odendaal

## Background

Pregnancy exacerbates pre-existing hernias due to an increase in abdominal pressure (1). Gravid uterus herniation occurs when the uterus containing a foetus protrudes through the abdominal wall, which is a rare but important complication of hernias with inherent risks to the mother and foetus (2). Current NICE guidelines for 'Intrapartum care for women with existing medical conditions or obstetric complications and their babies' do not include hernias as a risk factor (3) leaving these patients with an increased risk of complications in their pregnancy that are not monitored by obstetricians. This systematic review aims to increase awareness of this condition to improve safety netting, counselling and reassurance to patients with this condition in pregnancy.

## Objectives

- ✓ To systematically review the current experiences of women with gravid uterus herniation
- ✓ To identify risk factors and complications of gravid uterus herniation
- ✓ Evaluate outcomes of pregnancy for both mothers and fetuses

## Methods

Three peer-reviewed databases: Medline, Embase and CIANHL were used to perform an online systematic search of the literature on 8/10/24 reporting on gravid uterus herniation. Articles were screened according to the inclusion/ exclusion criteria that identified 24 key papers to review.

### Data was extracted on these areas:

- Study characteristics (type of paper, published date)
- Patient demographics (age, country, gravidity, parity and gestation)
- Features of presenting complaint (type of hernia, side effects of hernia, timing of hernia repair)
- Past medical history (previous pregnancies and deliveries, fetal viability and mode of delivery)
- Treatment methods
- Outcomes
- Complications

## Key findings

- ✓ Most patients carried foetus to full term, and both survived and remained healthy
- ✓ Potential risk factors: multigravidity, previous wound infection, previous c section, previous hernia
- ✓ Main complications included; discomfort, dragging sensation, vomiting, skin thinning and dehiscence and distended veins
- ✓ Link between previous c section, wound infection and subsequent skin dehiscence increasing risk of gravid uterus herniation

## Conclusions

In conclusion, gravid uterus herniation is a significant risk in pregnancy causing possibility of many complications and potential loss of pregnancy that can be managed through obstetrician care, frequent growth scans and pre-planned c section as the mode of delivery for birth.

- Increased frequency of growth scans for fetal growth surveillance
- Increased monitoring of intrauterine growth retardation (IUGR), polyhydramnios, fetal pole definition and fetal distress throughout pregnancy in those with pre-existing hernia
- Those with pre-existing hernias should be monitored by obstetricians throughout pregnancy
- Conservative management should be attempted first before consideration of termination due to high success rate of pregnancies with gravid uterus herniation

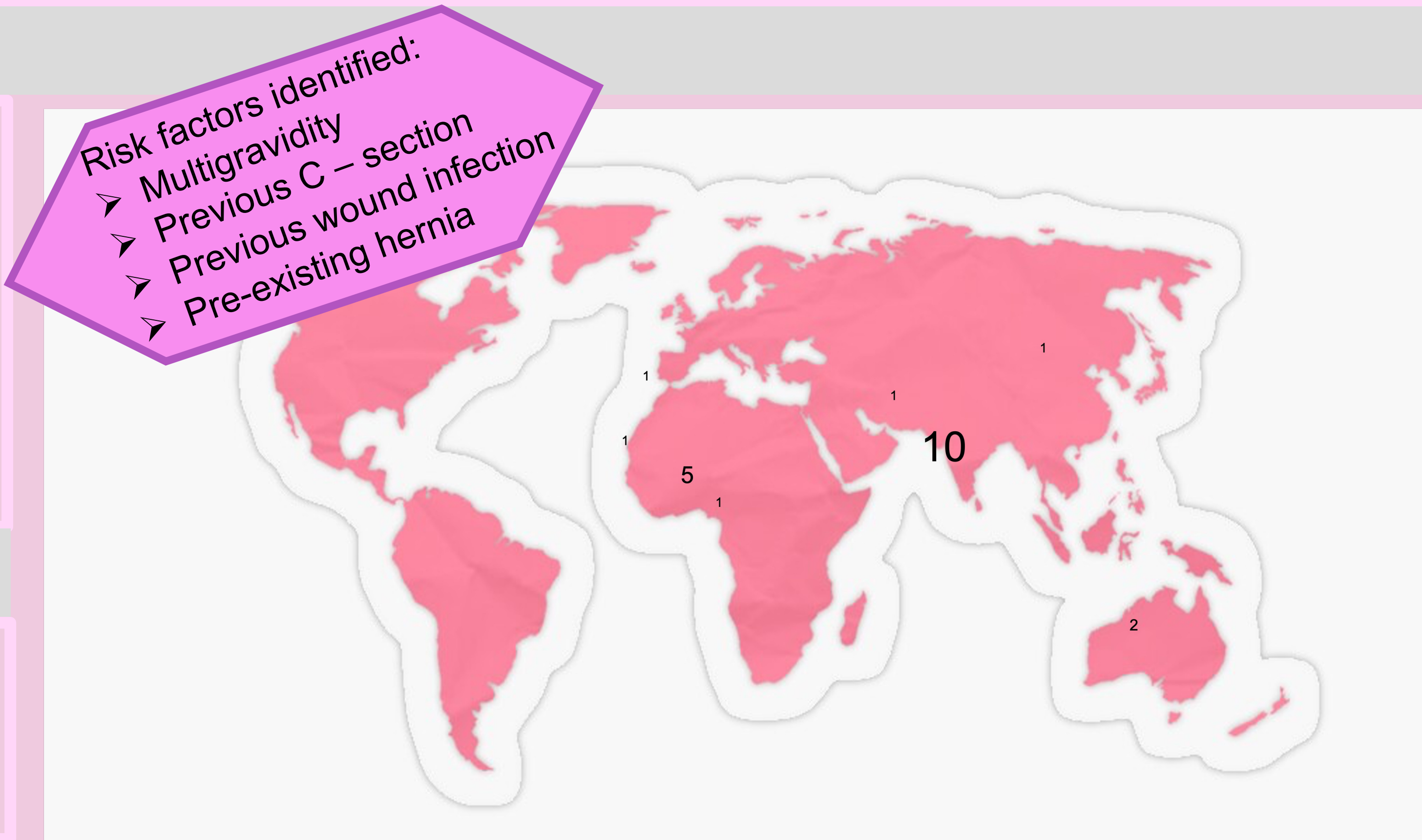


Figure 1: Map of the world demonstrating weighted distribution of included studies by region

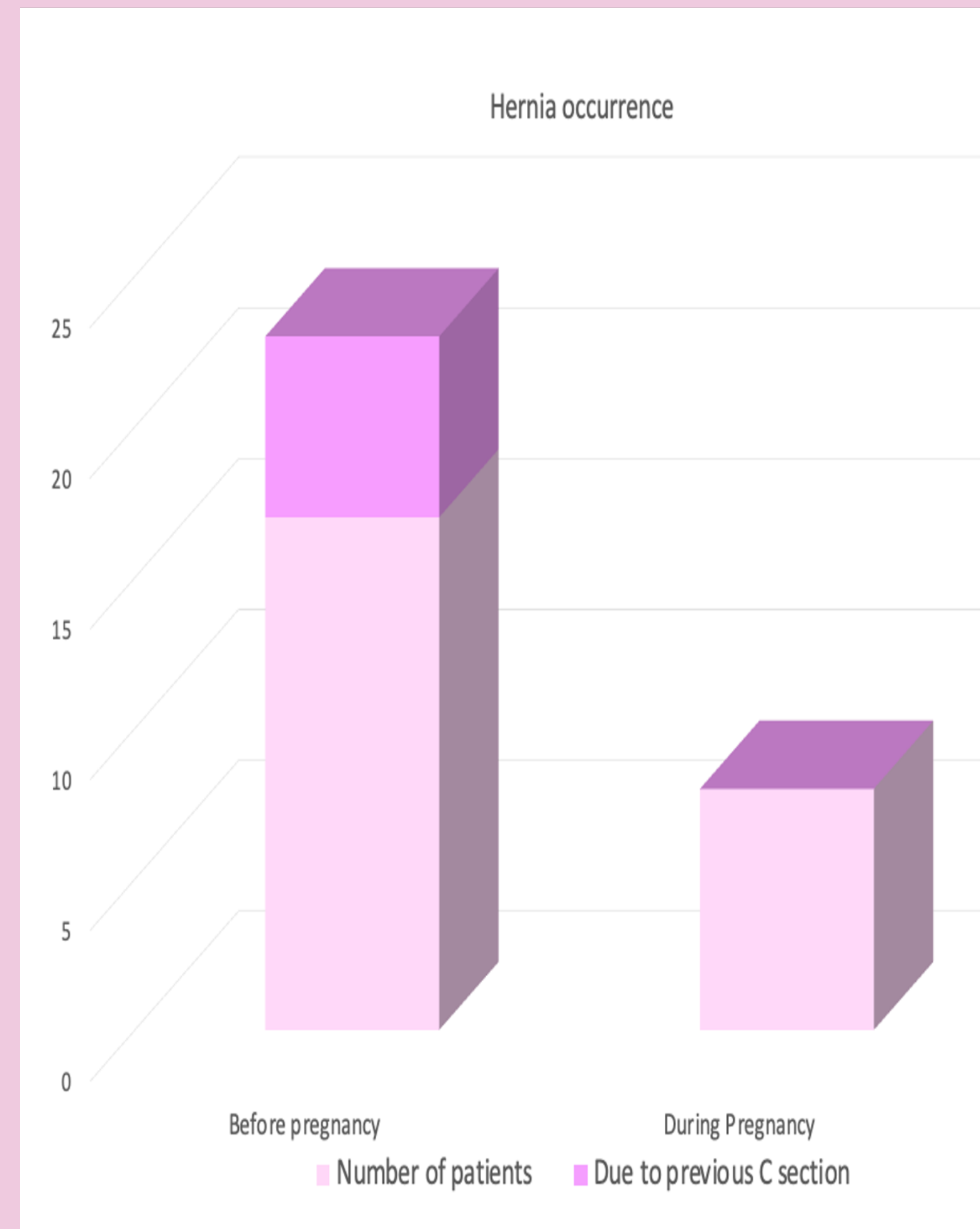


Figure 5: Stacked bar graph showing incidence of hernia occurrence

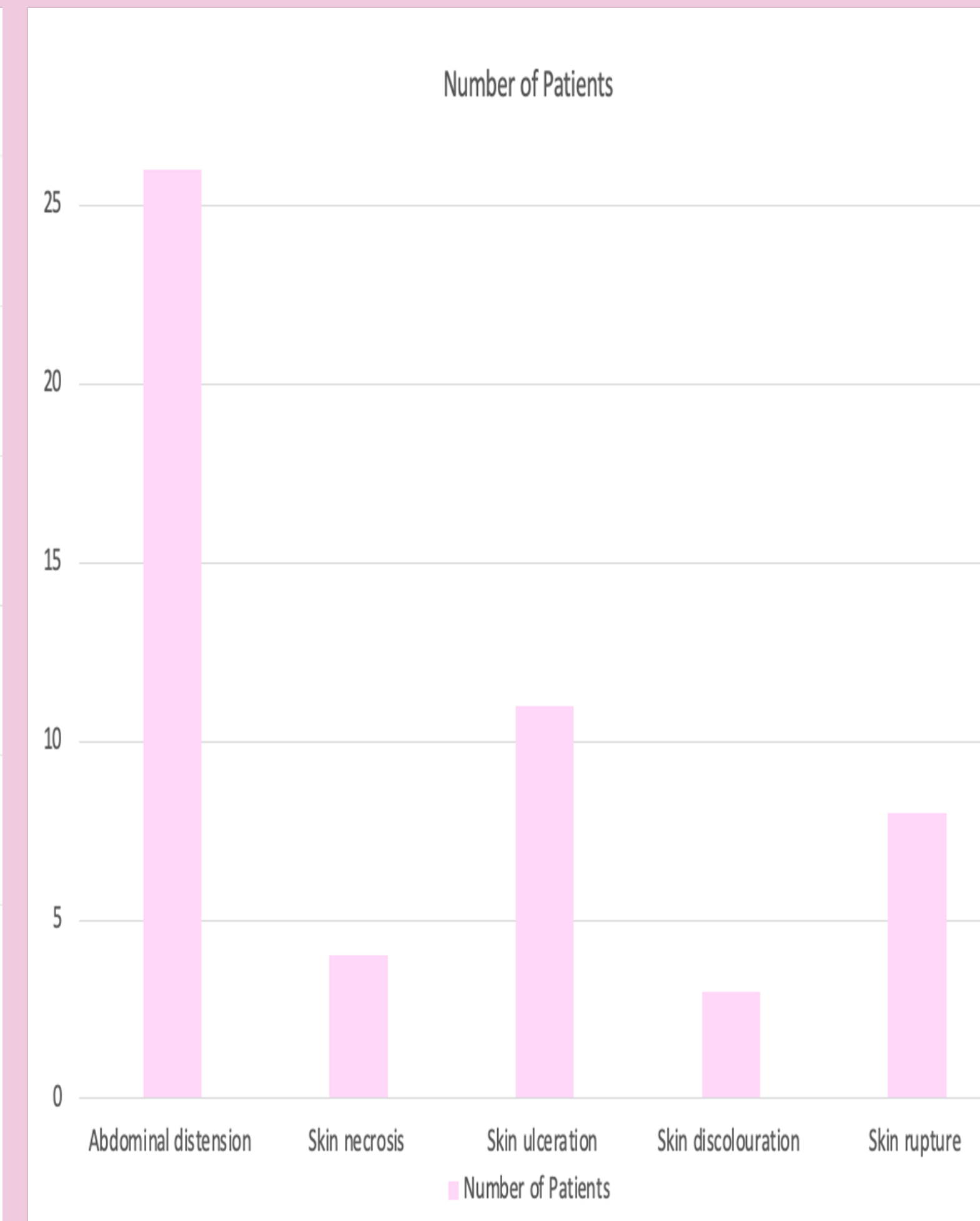


Figure 6: Bar chart displaying features of acute presentation in patients

## Results

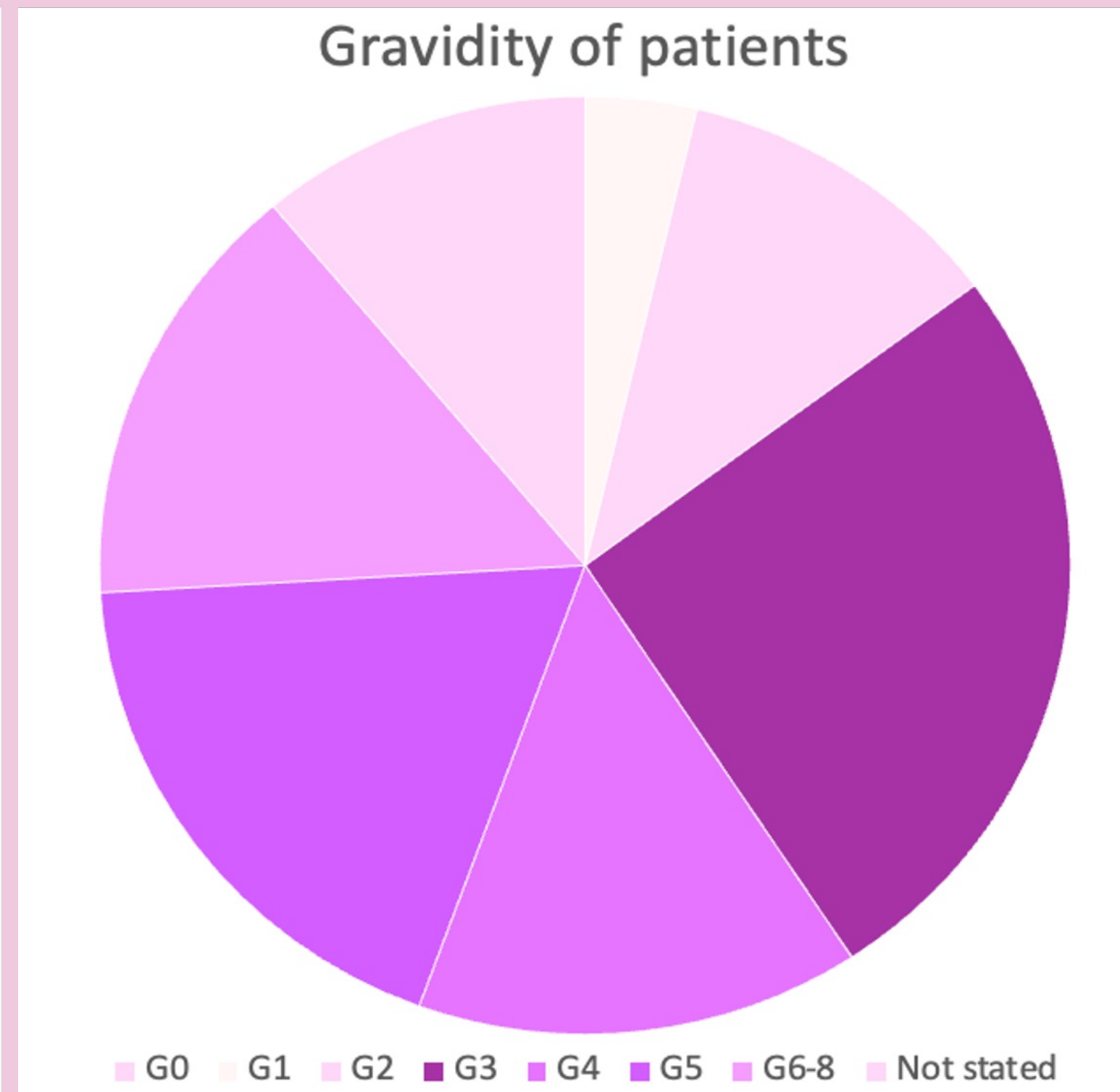


Figure 2: Pie chart displaying patient gravidity



Figure 3: Pie chart displaying previous deliveries

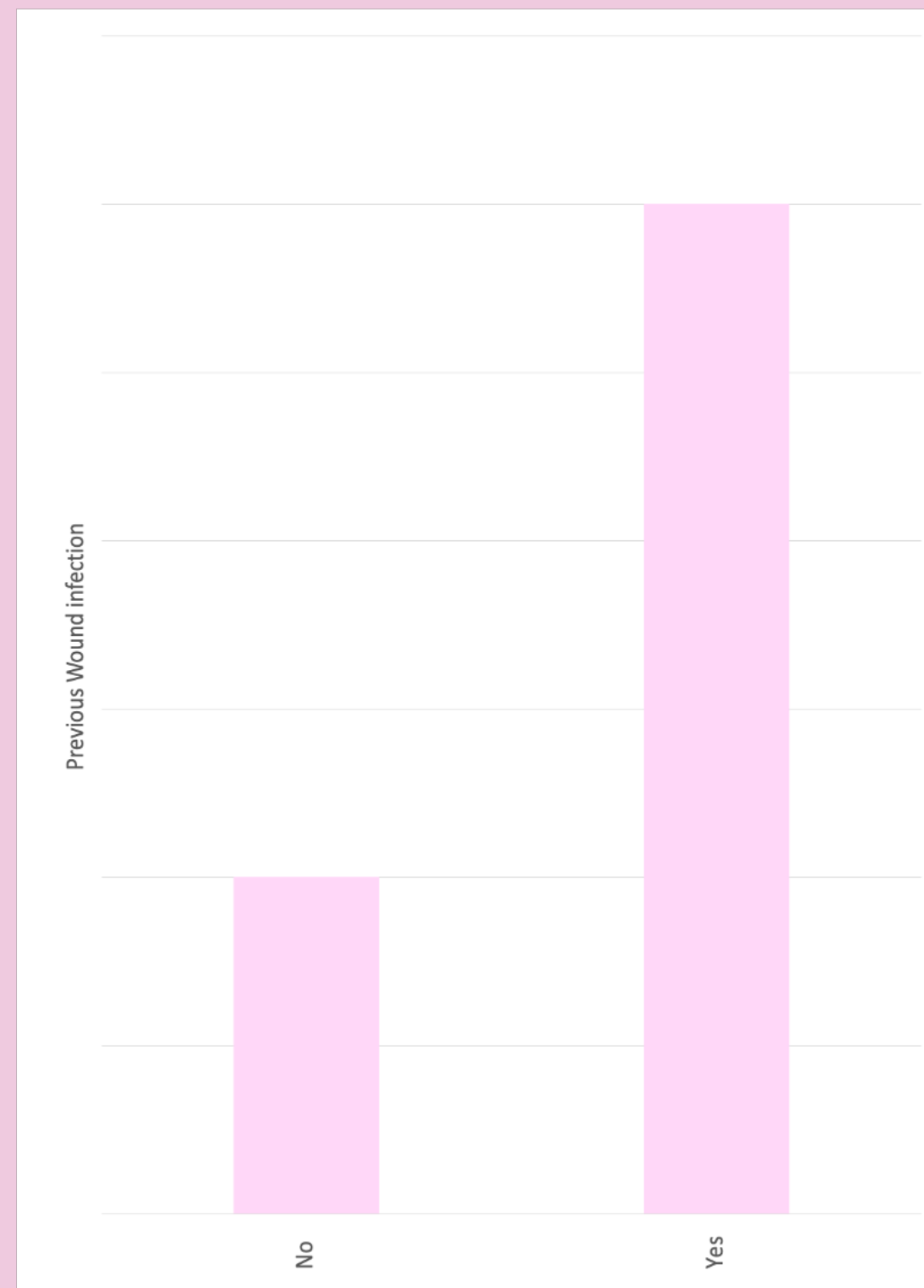


Figure 4: Bar chart showing incidence of previous wound infection

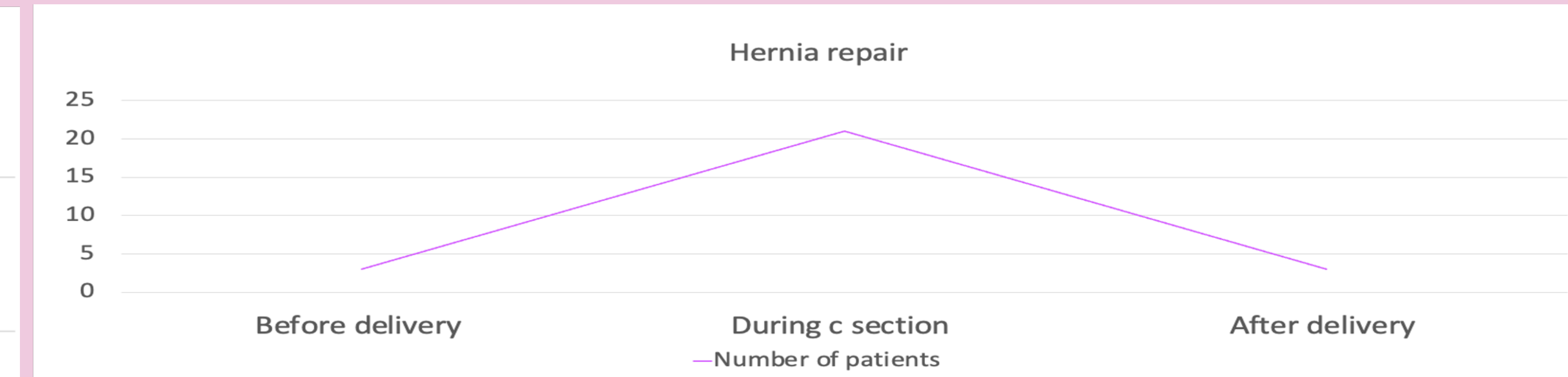
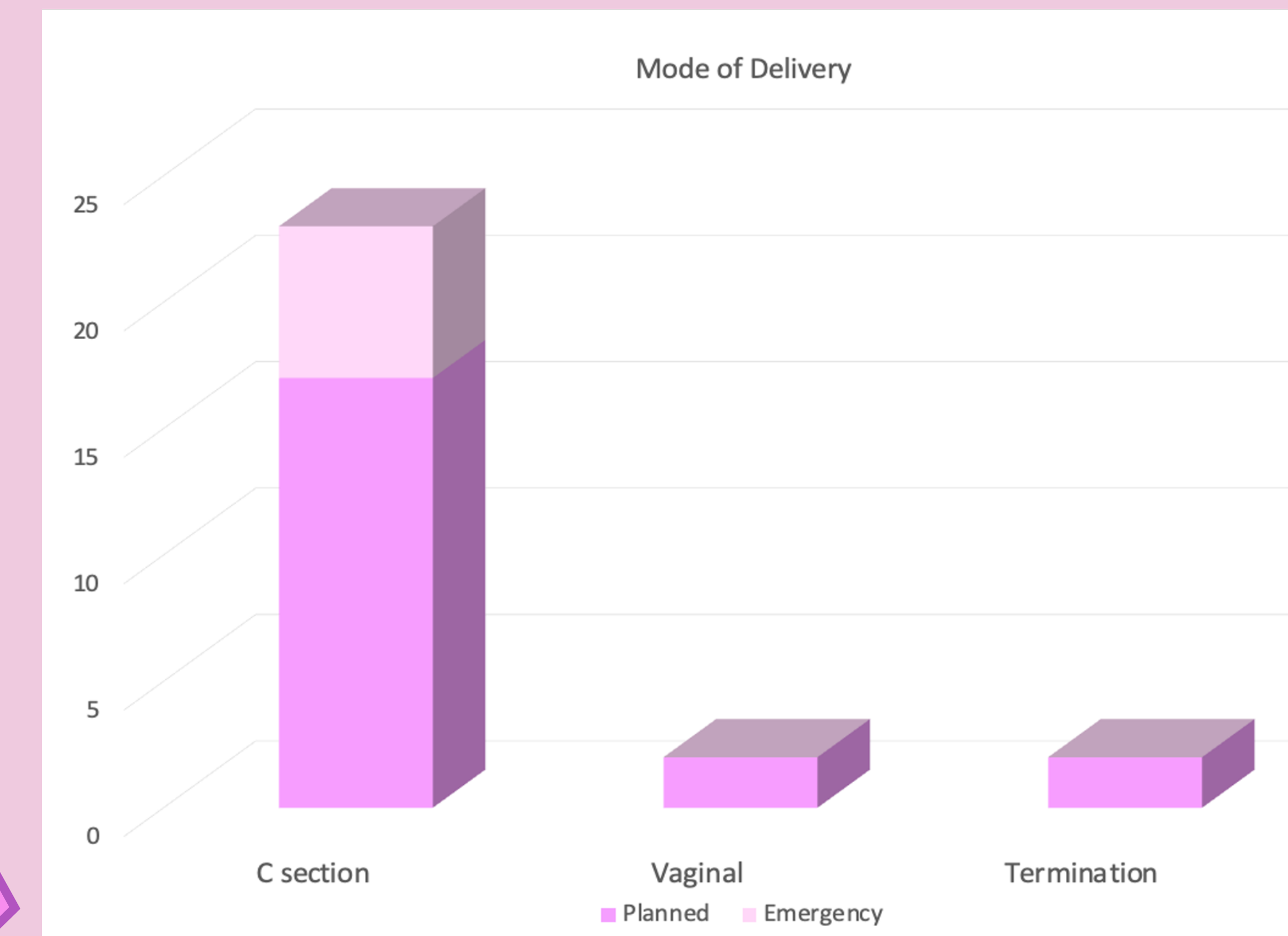
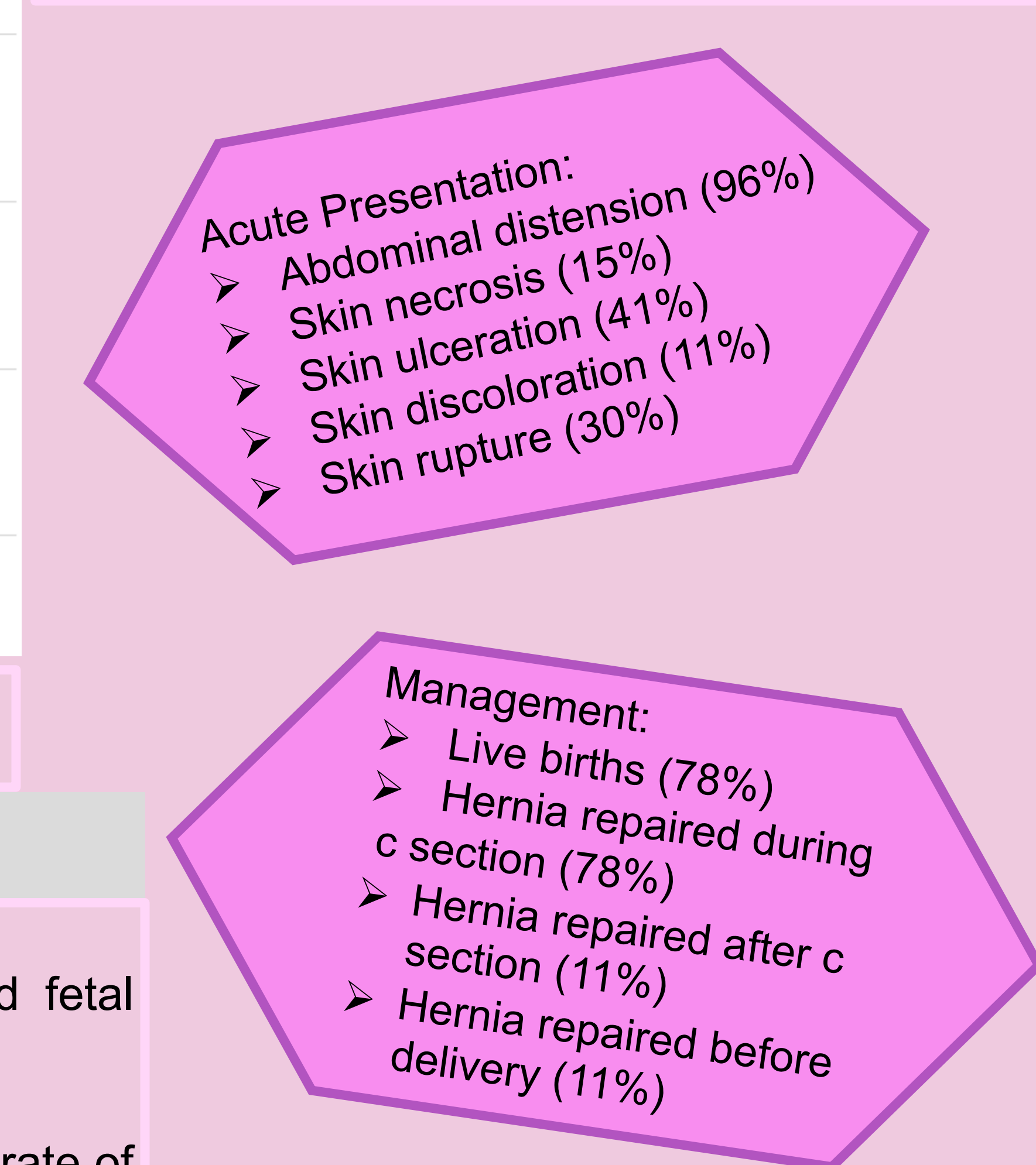


Figure 7: Stacked bar chart displaying mode of delivery reported in case reports

Figure 8: Line graph displaying timeline of hernial repair in pregnancy



## References

- 1 - Franz MG. The biology of hernia formation. Surg Clin North Am. 2008;88(1):1-15. vii.
- 2 - Saha PK, Rohilla M, Prasad GR, Dhalwal LK, Gupta I. Herniation of gravid uterus: report of 2 cases and review of literature. MedGenMed. 2008;8(4):14.
- 3 - NICE. Intrapartum care for women with existing medical conditions or obstetric complications and their babiesNICE. 2020. <https://www.nice.org.uk/guidance/qs192>
- 4 - Murad MH, Sultan S, Haffar S, Bazerbachi F. Methodological quality and synthesis of case series and case reports. BMJ Evid Based Med. 2018;23(2):60-3.