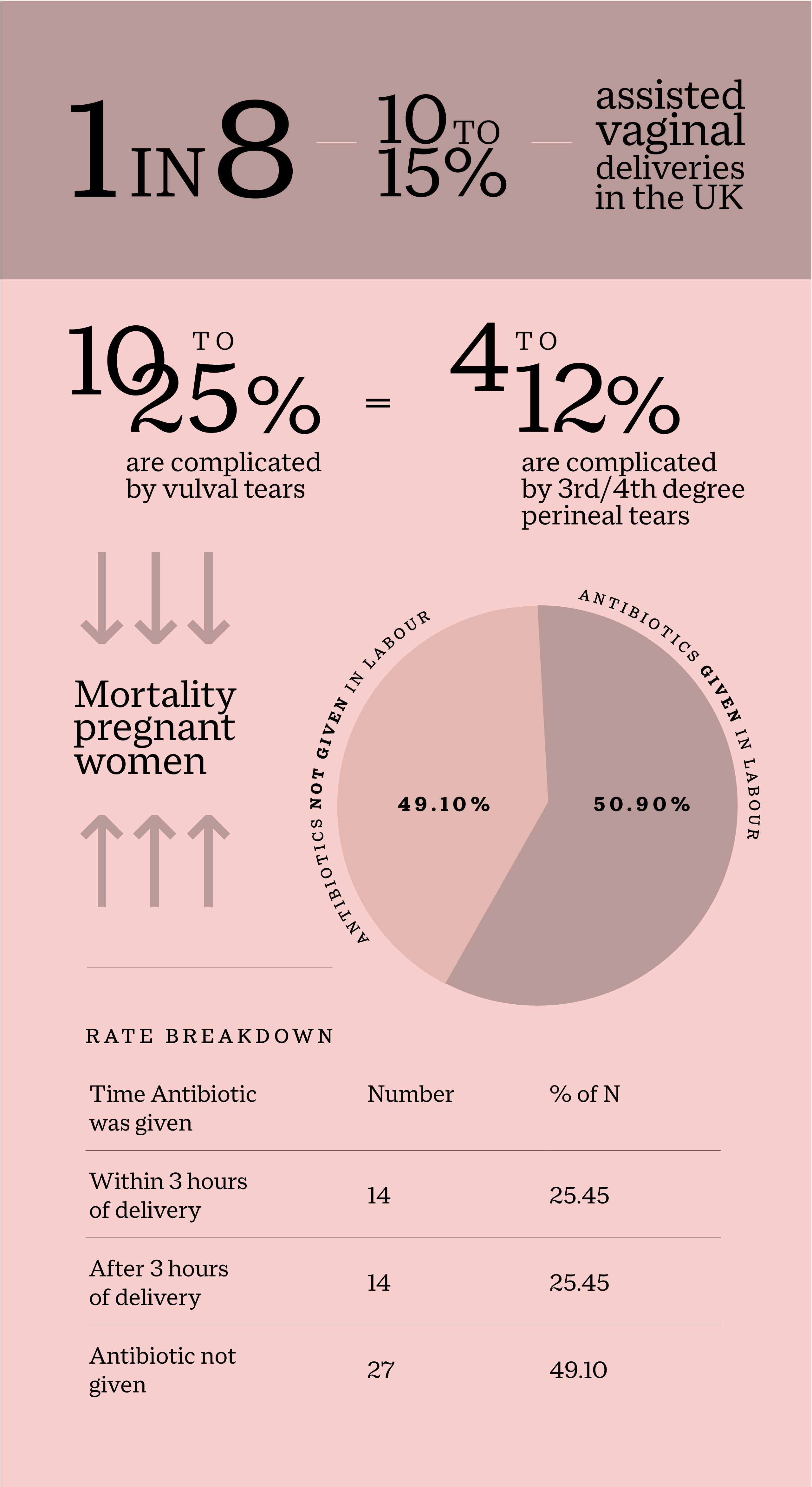


Prophylactic Antibiotic Administration To Women Following Assisted Vaginal Birth In The Labour Room

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INTRODUCTION

Assisted vaginal deliveries account for 1 in 8 (roughly 10 - 15%) of all births in the UK. Roughly 10 - 25% of assisted vaginal deliveries are complicated by significant vaginal/vulval tears with 4 - 12% complicated by third- and fourth- degree perineal tears and subsequent infective morbidity. The MBRRACE report, 2022, stated that direct sepsis-related maternal deaths accounts for 0.81 per 100,000 maternities, whilst both direct and indirect sepsis-related deaths account for 1.2 per 100,000 maternities. Many women who have an assisted vaginal birth develop infections. A previous study (ANODE) showed that a single dose of antibiotics protected women. However, most women in the ANODE study had an episiotomy, so it was unclear if antibiotics also protected those with a perineal tear. To address this, researchers re-analysed the study data and found that prophylactic antibiotics reduced infections, irrespective of whether women had a perineal tear, an episiotomy, or both. This outcome clearly highlights the significance of auditing the clinical practice compared to guidelines to help reduce mortality in pregnant women– particularly in the case of preventable and treatable causes.

AIMS

This audit aimed to evaluate the compliance of the routine administration of prophylactic antibiotics following an assisted vaginal delivery, in low-risk pregnancies, as per the Royal College of Obstetrics and Gynaecology (RCOG) guidelines. The compliance will then be assessed against the incidence of postpartum complications.

- 1

To determine the compliance rate of antibiotic prophylaxis among women having assisted vaginal delivery in the labour room.
- 2

To determine the incidence of infective morbidity among women who had assisted vaginal birth in the labour room.
- 3

To suggest ways of improving the antibiotic compliance among women who had assisted vaginal delivery in the labour room.

METHODS

This audit was a retrospective case study over a period of 6-months from the 1st January 2022 to 31st June 2022, assessing the labour department at the QEHKL. Overall, a total number of 986 deliveries were reported; with 79 assisted vaginal deliveries (8%). Of these 79 assisted deliveries, 55 occurred in the labour room, therefore meeting the audit criteria and subsequently analysed for this audit using the audit tool created. The audit tool was developed following the criteria set for the project, derived from the QEHKL Clinical Guideline for Operative Vaginal Delivery and the Assisted Vaginal Birth Green-Top Guideline No. 26 (April 2020). Three reviewers evaluated individual patient notes and collated a database record which detailed data on socio-demography, indications, type of assisted vaginal delivery, antibiotic use and outcomes was taken from the BadgerNet notes and ICE for each patient.

RESULTS

When reviewing the patients eligible for the audit, there were a number of interesting sociodemographic characteristics. The mean ago of women was 28.5 ± 6.1 years; modal parity being primigravida (85.5%), mean gestational age of 281.2 ± 8.4 days, and a mean BMI of 25.2 ± 4.0 kg/m2. The distribution of the types of assisted deliveries showed 58.20% forceps, 21.80% kiwi and 20.00% ventouse. There were various indications for the assisted vaginal delivery, primarily foetal distress (45.50%) as well as maternal distress (21.80%), delayed second stage of labour (21.80%) and the remaining 10.90% having no indicated recorded. When reviewing the QEHKL compliance to the auditable standards, it can be identified that of the 55 patients included, a 28 received antibiotics following delivery – 14 within the 3 hour window and the remaining 14 after the 3-hour window. This accounts for a 50.90% compliance with the auditable standards as the remaining 27 patients (49.10%) did not receive antibiotics at all following delivery.

FACTORS AFFECTING COMPLIANCE

When comparing potential factors affecting compliance, it can be deduced that BMI and allergies did not have a significant effect, however, the presence of a cannula and location of assisted vaginal delivery contributed to the administration of antibiotics. The overall infective morbidity rate was 7 (12.7%), with the main complications being perineal wound infection and breakdown. Of the 7 reported cases, 6 (22.2%) were patient who did not receive antibiotics and the remaining 1 (3.6%) was administered antibiotics.

CONCLUSIONS

In review of this audit, the overall antibiotics compliance rate was low (50.90%) and a significant number of women had antibiotics over 3 hours post delivery. This omission of antibiotic therapy did show a higher rate of infective morbidity amongst those women, requiring further follow-up. Our action plan is to:

- 1

Create awareness and teaching to doctors and midwives about the significance of antibiotic prophylaxis within the 3-hour period following assisted vaginal birth with reminder monthly emails.
- 2

The band 7 midwife in-charge will add on the board a ‘tick-box’ for IV antibiotics after each instrumental delivery as a memory aid and prompt.
- 3

The WHO checklist for instrumental delivery in the labour room as part of the local SOP.
- 4

A mandatory column for antibiotic administration will be added to all patient’s electronic record.

We have notified healthcare professionals of the results of this audit and plans going forwards. We have updated the relevant electronic records and provided a WHO checklist for the labour rooms. The midwives have been made aware of the board changes. We will reaudit the care pathway in 6-12 months to assess the implemented targets.