

The Impact of Anaemia on Major Obstetric Haemorrhage – A UK DGH Experience

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BACKGROUND

Iron deficiency anaemia is a global problem, impacting around 279,000 pregnant women worldwide (WHO). Although it is more prevalent in low-resource countries, it is still an important issue in all healthcare systems. Effective management is required to reduce adverse maternal and pregnancy outcomes, particularly major obstetric haemorrhage (MOH) for which iron deficiency anaemia has been identified as a risk factor and is a major cause of morbidity. The purpose of this study is to identify whether our methods of screening for anaemia are effective, if our subsequent management meets local and national recommendations and whether this is a significant contributing factor to our MOH rates.

METHODS

We performed a retrospective audit of 90 women over a 6-month period who had experienced a haemorrhage of 2L or more. We retrospectively identified whether they had been diagnosed with anaemia at any point during the pregnancy. We then assessed whether they had received appropriate treatment, follow up and advice in line with local and national guidance.

Management of anaemia – Summary of Local and National Guidance

Definition

- Hb <110g/L before 13 weeks
- Hb <105g/L >13 weeks
- Hb <100 g/l post partum with MCV <80 fl
- MCH <25 pg (or significant drop since booking)

Diagnosis

- Clinical signs and symptoms
- FBC – Low Hb, MCV, MCH and MCHC
- Blood film – microcytic hypochromic red cells and 'pencil cells'
- Serum Ferritin <30 mcg/L (<50mcg in later pregnancy)
- Reticulocyte count, B12, folate +/- blood film

Treatment

- Dietary advice including vitamin C to enhance absorption
- Oral iron supplements- Ferrous sulphate 200mg od/bd po
- Repeat Hb 2 weeks aiming for 20g/l over 3-4 weeks
- Once Hb normal, continue treatment for a further 3 months or at least 6 weeks post partum

NB caution with those with thalassaemia/sickle cell trait that may always have a low MCV and MCH

RESULTS

The majority of women studied were aged between 20-40, nulliparous, white British with a BMI between 20-30. All women identified as anaemic at booking were correctly prescribed oral iron replacement (figure 1). We identified three women who were diagnosed with anaemia at 28 and 36 weeks who were not prescribed iron replacement, meaning they were anaemic prior to delivery (Figure 2a and 2b). Postnatally, 38% of women requiring transfusion were not prescribed or offered additional iron transfusion and only 36% of anaemic women had evidence of a follow up plan (Figure 3). Furthermore, we identified that no dietary advice was given in 76% of cases.

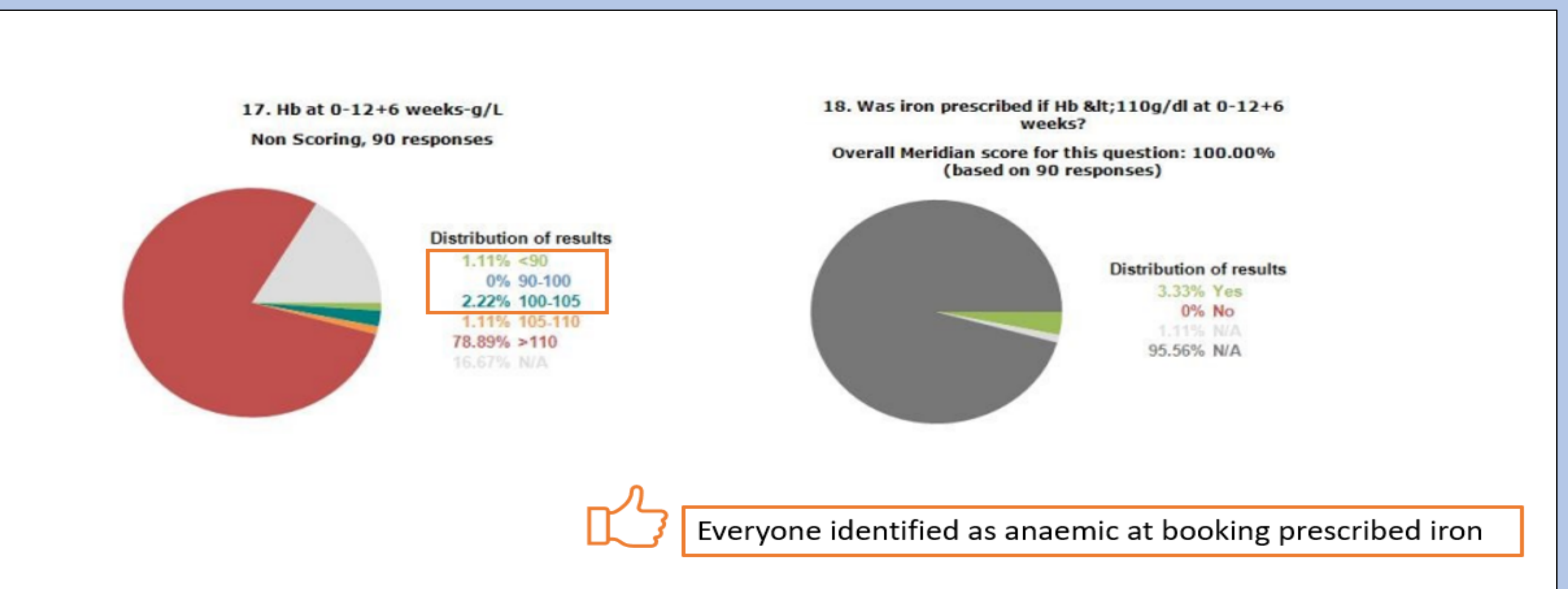


Figure 1. Anaemia at booking

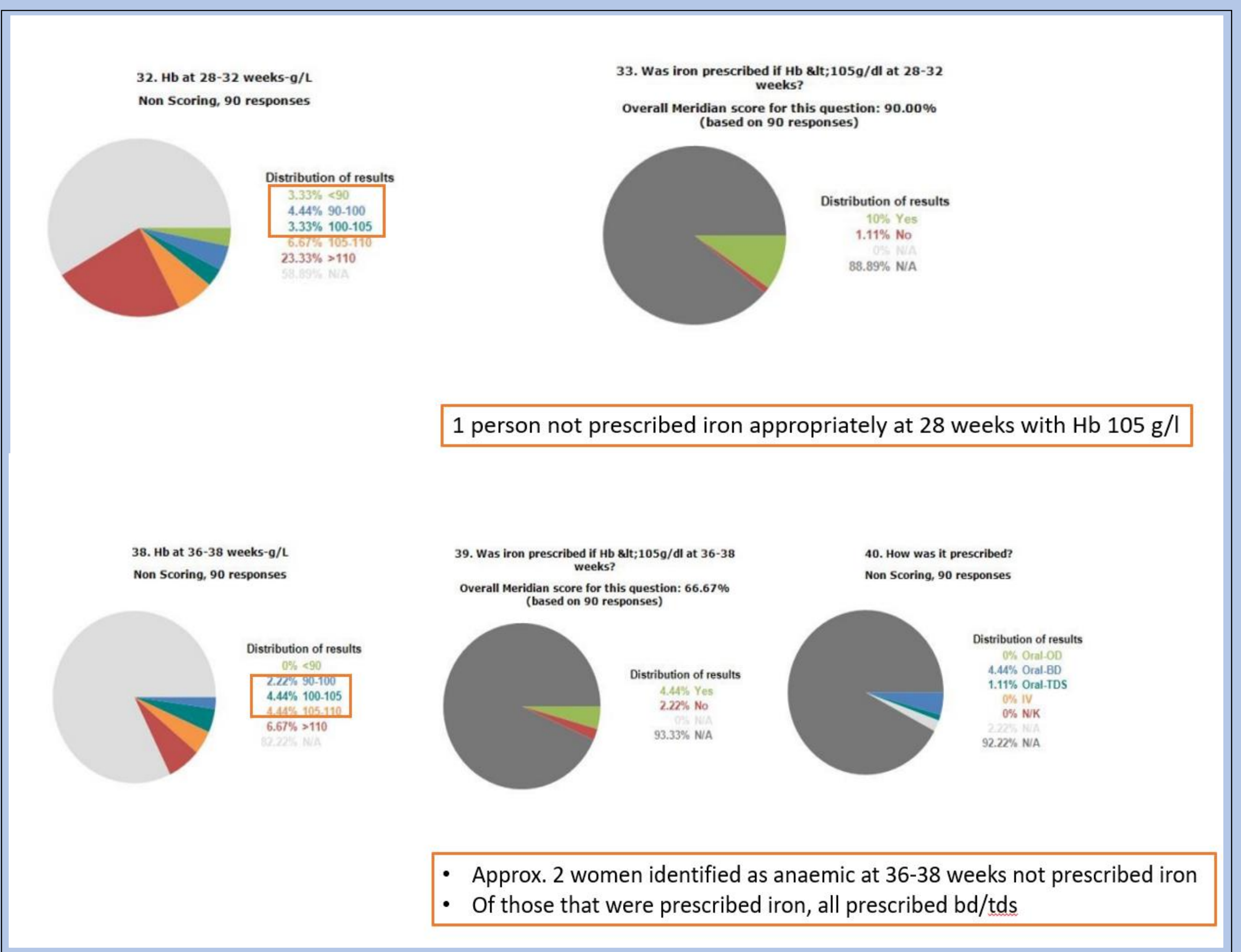


Figure 2 a) Anaemia at 28 weeks and 2b) Anaemia at 36 weeks

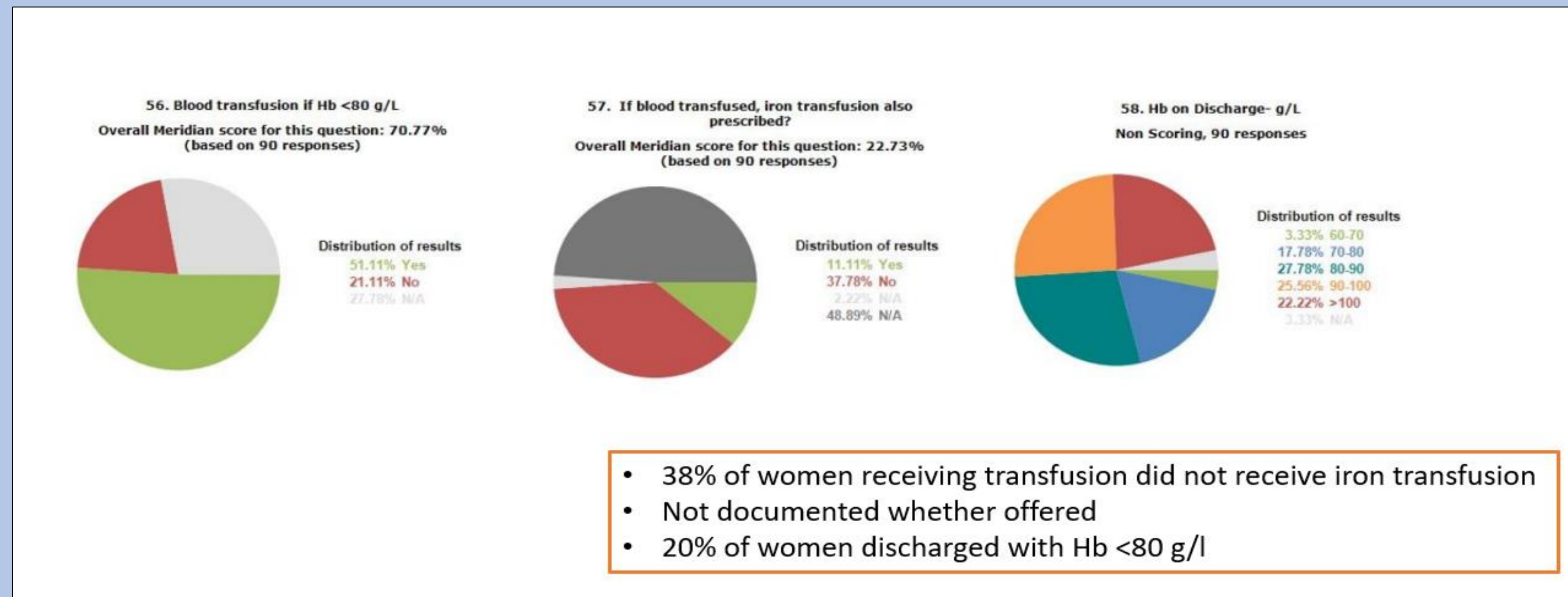


Figure 3. Management of post natal anaemia

CONCLUSIONS

Although anaemia is a risk factor for MOH, we did not find this was a significant contributing factor in our population. 100% of women were screened for anaemia at booking and 97% of women identified as anaemic during pregnancy were treated appropriately with the correct dose of oral iron. We did however, find significant treatment gaps that could be improved on postnatally, as well as ensuring women receive suitable dietary advice. In order to address these issues, we will deliver departmental education on dietary advice and post partum management and have developed helpful visual aids for quick reference to use in everyday clinical practice to improve compliance (figure 4). Further work will focus on identifying other risk factors specific to our population to reduce our local incidence of MOH.

ANTENATAL

- Definition of anaemia is Hb:
 - <110g/l in first trimester
 - <105g/l in 2nd and 3rd trimester
 - <100g/l in post partum period
- Dietary advice
 - Oral Fe supplements – Ferrous sulphate 200mg od/bd
 - Repeat Hb 2- 3 weeks
 - Once target reached, continue 3 months and at least 6 weeks post partum

INTRAPARTUM

- Risk assess
- Take into account other risk factors
- Place of birth
- Consider IV access
- G&S
- Active management 3rd stage

POST PARTUM

- PPH >500mls and uncorrected anaemia/symptomatic –check Hb within 48 hours
- Hb <100g/l within 48 hours and haemodynamically stable – offer oral iron supplementation for at least 3 months
- Consider IV iron infusion (Ferrinject) in:
 - Symptomatic Haemodynamically stable patients (Hb <80 g/l) or, Haemodynamically unstable patients should be transfused to stable state (approx. 80 g/l) and then offered IV iron in addition

FOLLOW UP

- Advise GP to check FBC and ferritin at 6 weeks postpartum

Dietary advice:

Haem iron from meat, fish and poultry absorbed 2-3 times more readily than non-haem iron

Vitamin C enhances iron absorption from non –haem foods

Tannins in tea and coffee inhibit absorption

