

An Audit of Vitamin D Supplementation in Pregnancy in an Ante-natal Centre in Birmingham

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Background

- Approximately 1/3 of pregnant women in the UK are estimated to be deficient in Vitamin D (1).
- Vitamin D deficiency in pregnancy can have deleterious consequences, including an increased risk of pre-eclampsia, gestational diabetes mellitus, intrauterine growth restriction and osteomalacia. (2) (3)
- Vitamin D supplementation in pregnancy has shown to be beneficial for the mother and fetus, including a reduced risk of pre-eclampsia, pre-term birth and small for gestational age baby, compared to placebo. (4)

Results

- Data from 141 pregnant women was collected
- Of the 141 women, 44% (n=62) received some form advice about Vitamin D supplementation and dosage, in the form of written and/or verbal information.
- Of the 48% (n=67) women who were eligible for the Healthy Start supplementation, 75% (n=50) were offered the supplementation.
- Of the 87% (n=122) women who had one or more risk factors for Vitamin D deficiency, 67% (n=40) were asked about Vitamin D supplementation.
- Of the 67% who were asked, 50% (n=20) were taking the correct dosage of Vitamin D

Conclusions

Adherence to the NICE guidelines regarding Vitamin D supplementation is suboptimal in the ante-natal services at Sandwell and West Birmingham (SWBH) NHS Trust.

Lack of adherence may be attributed to:

- Insufficient training for clinicians on the importance of supplementation in pregnancy, causing them to underestimate the consequences Vitamin D deficiency.
- Clinicians may be unsure as to what type of written advice to give to patients, as there are multiple websites, leaflets and books that can be offered to patients.
- There is no mandatory recording system in place to screen for patients that are at risk of Vitamin D deficiency or are eligible for Healthy Start in ante-natal clinics.
- Lack of clarity within the NICE guidelines – clinicians are unsure of what is precisely meant by “low sunlight exposure” and “diet low in Vitamin D”.

Standards

The National Institute for Health and Care Excellence (NICE) have published standards for Vitamin D supplementation in pregnancy (5):

- All women should be given information on taking a 10mcg Vitamin D supplement per day
- The Healthy Start vitamin supplement should be offered to all eligible women
- All women at greatest risk of vitamin D deficiency must be asked about supplementation. These include women of South Asian, African, Caribbean or Middle Eastern family origin, women with limited sunlight exposure, women with a diet low in Vitamin D, and women with a pre-pregnancy BMI above 30 kg/m².

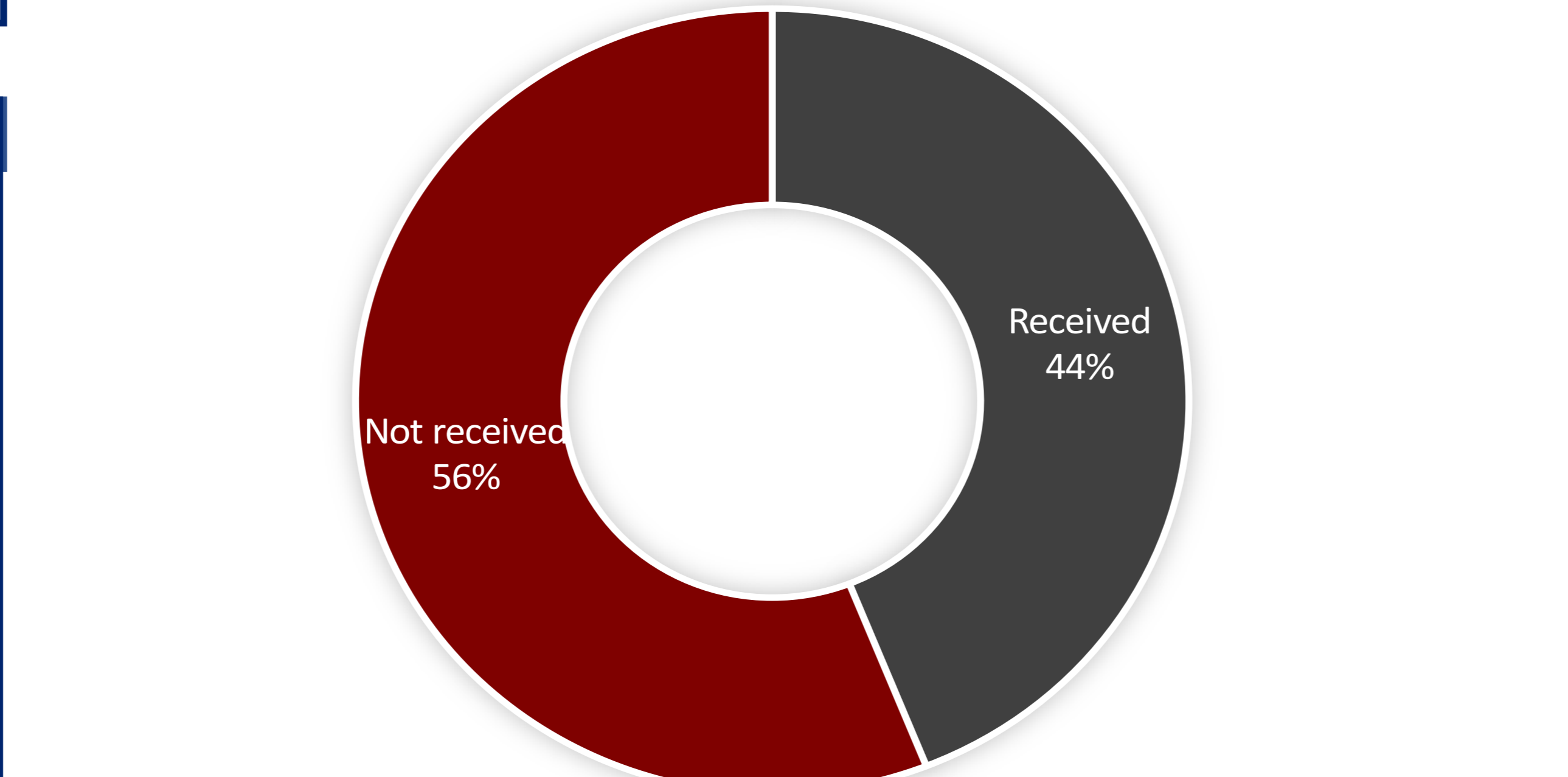


Figure 1: The proportion of patients that received any written or verbal advice about Vitamin D supplementation and the dosage (n=141)

Methods

Study type: A single-centre cross-sectional audit carried out between September-December 2017

Data collection: Pregnant women attending ante-natal clinics were asked to complete a questionnaire about their experiences with Vitamin D supplementation during their current pregnancy (see audit questionnaire below)

Analysis: Data was analysed using Stata 15.

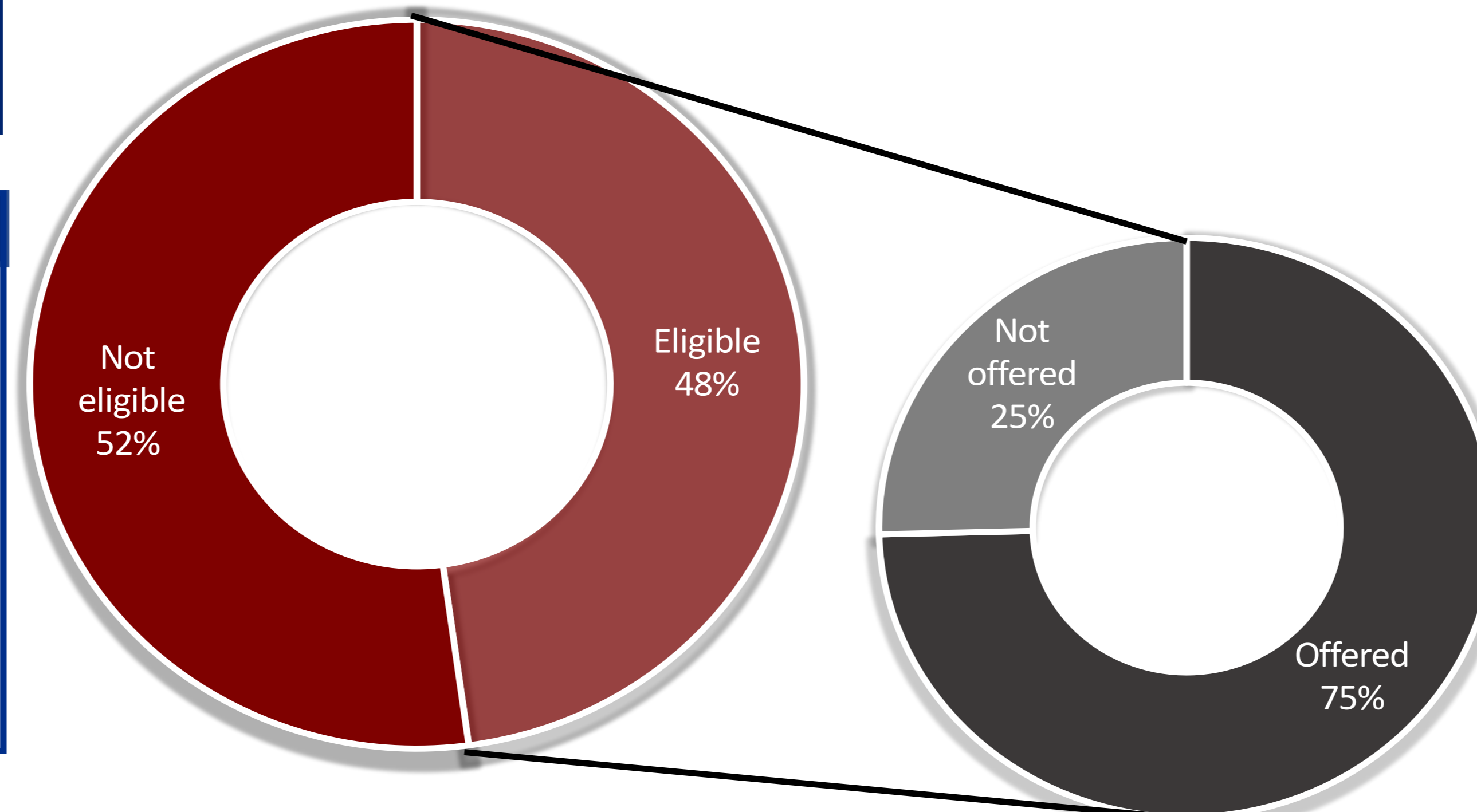


Figure 2: The proportions of: **A)** patients that were eligible for the Healthy Start supplementation (n=141), and **B)** patients that were offered the Healthy Start supplementation, if they were eligible (n=67)

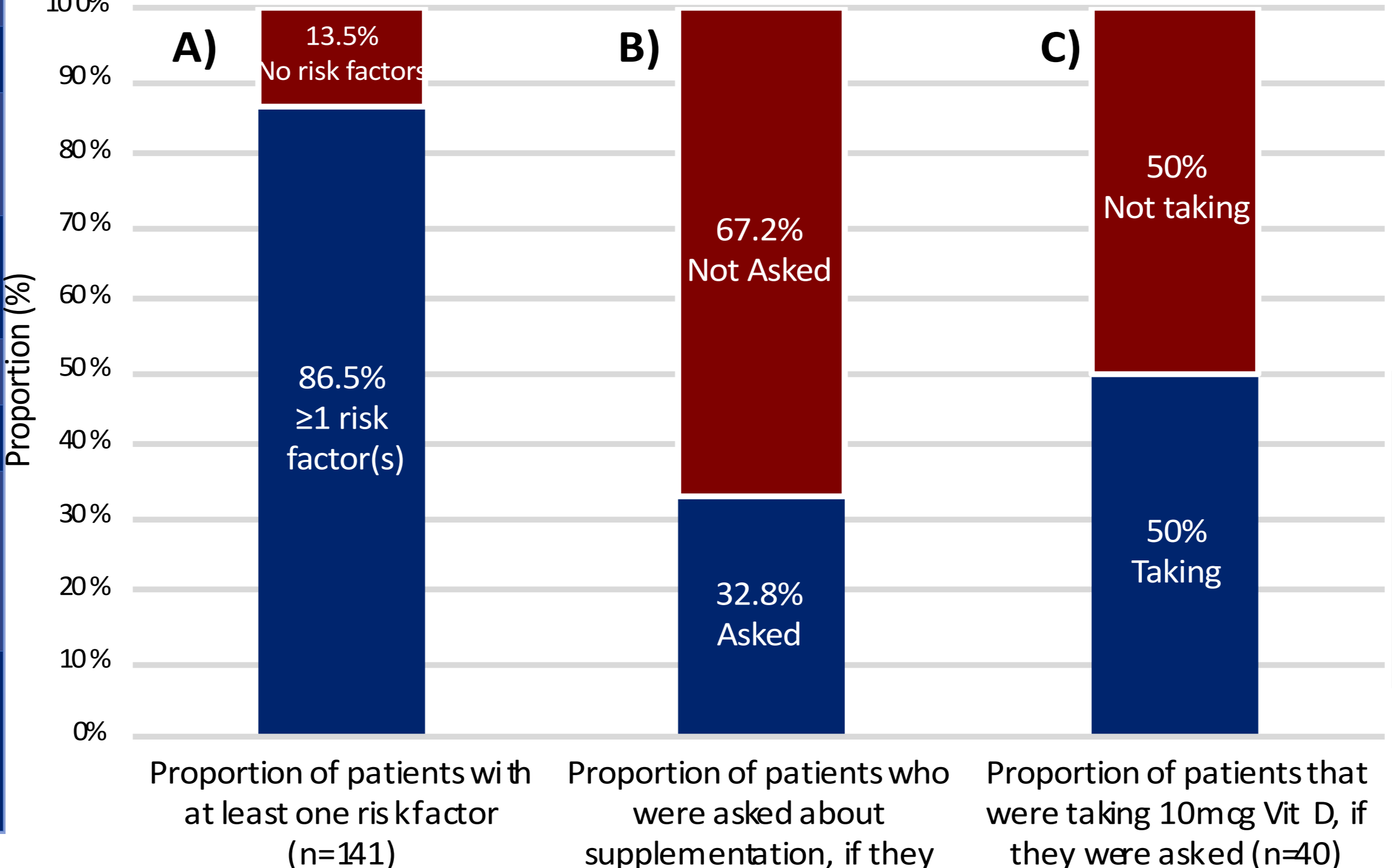


Figure 3: The proportions of: **A)** patients that had at least one risk factor for Vitamin D deficiency, **B)** patients that were asked about Vitamin D supplementation if they had at least one risk factor, and **C)** patients that were taking the correct 10mcg dosage of Vitamin D supplementation, if they were asked.

Limitations

- Some women were already identified as Vitamin D deficient pre-pregnancy, and therefore were on a higher treatment dose, which was not accounted for in the results.
- This questionnaire relied on the women’s abilities to correctly recall all advice that was given to them during their pregnancy
- The interpretation of “diet low in Vitamin D” and “low sunlight exposure” may differ between patients completing the questionnaires
- This was carried out in a single antenatal clinic over a short four-month period, so results cannot be generalised to other Trusts in the UK.

Recommendations

- Clinicians should attend a training session on the type of advice one should give to women regarding supplementation in pregnancy, and how to screen for women at risk of deficiency.
- NHS should publish a single leaflet that can be used offered by clinicians in all Trusts with written advice on supplementation.
- Incorporate a screening tool for Vitamin deficiency to be used by clinicians at the ante-natal booking appointment.
- Define precisely what is meant by “low sunlight exposure” and “diet low in Vitamin D” in the NICE guidelines.
- Make Healthy Start available to all women, not just those who are “eligible”.

Question

BMI
Ethnicity
DOB
Gestational Age
Have they received verbal/written and dosage information?
Are they eligible for the Healthy Start Supplementation?
Do they have limited exposure to sunlight?
Do they have a diet low in Vitamin D?
Are they currently taking Vitamin D supplementation?
If yes, what dosage?
If they have any risk factors for Vit D deficiency, were they asked about supplementation?

Table 1: An adaptation of the questionnaire given to the pregnant women at the ante-natal clinics, asking about their demographics and their experience with Vitamin D supplementation in their current pregnancy

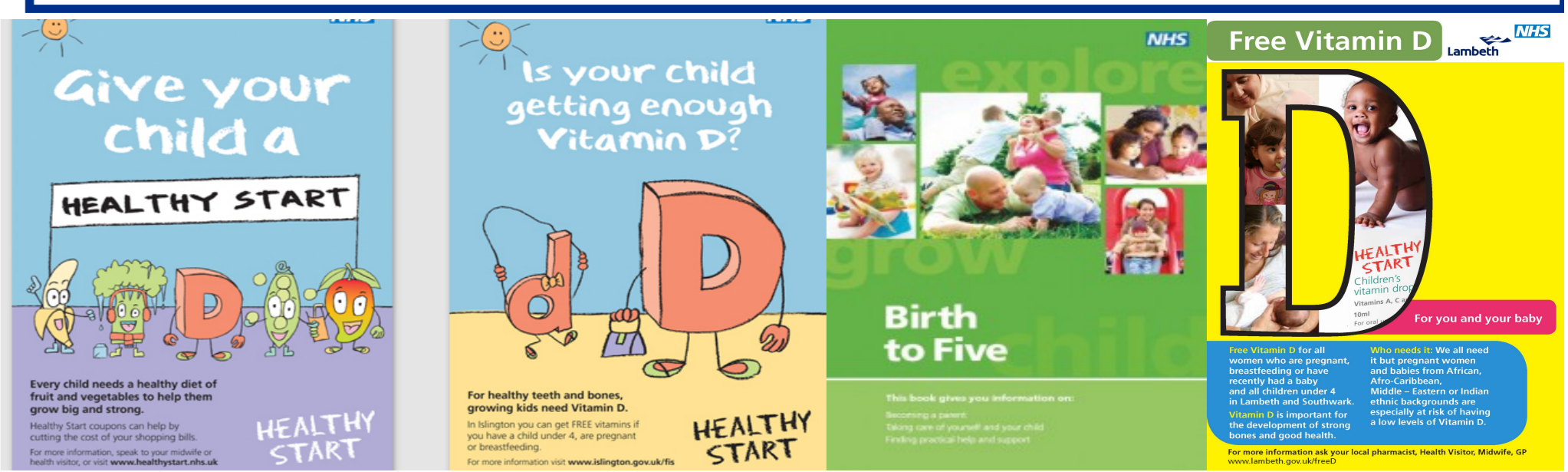


Figure 4: Examples of current types written information offered by NHS services regarding Vitamin D supplementation (6) (7) (8)

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