Effect of three micronutrient supplementation strategies during pregnancy on maternal hemoglobin and iron status, and associations of maternal hemoglobin and iron status with infant birth size

Statistical Analysis Plan (Addendum to "Main" SAP, version 3)

Contents

Version number	1
Version date	May 27, 2014
Authors	Seth Adu-Afarwuah (Adapted from the original draft prepared by Josh Jorgensen)
Implementation date of current version	May 27, 2014

Version History Log

This table will detail the version history for this document, including the key elements of the changes to the versions.

Version	**Date implemented**	**Details of significant changes**
1	May 27, 2014	This is the first version. It is intended as an addendum to the main SAP, Version 3. As a result, there are various aspects of the analysis that have been described in the main SAP Version 3 and will not be repeated here. Both the main SAP Version 3 and this current SAP (on Hb and markers of iron status outcomes) will guide the analysis described in this document.

1. Study objectives

The objectives of these present analyses are to:

1) determine the main effect of intervention on maternal hemoglobin (Hb), iron status, and inflammation, and

2) determine the associations among Hb, iron status, and inflammation and birth outcomes.

Details of these objectives are as follows:

1.1. Main effect of intervention on Hb, iron status, and inflammation

To determine:

a. If, at 36 weeks of pregnancy, there were differences in Hb and markers of iron status (zinc protoporphyrin (ZPP) and soluble transferrin receptor (sTfR)) among women who received either LNS, multiple micronutrient (MMN) capsules, or iron-folic acid (IFA) capsules during pregnancy.
b. If, at 36 gestational weeks, there were differences in the prevalence of low iron status and low and high Hb among women who received either LNS, MMN, or IFA during pregnancy.
c. The effect of the intervention on the prevalence of elevated C-reactive protein (CRP) and alpha-1 acid glycoprotein (AGP).
d. Whether baseline values modify the effects of the intervention on inflammation, Hb and iron status (zinc protoporphyrin (ZPP) and soluble transferrin receptor (sTfR)) of women at 36 gestational weeks.

1.2. Associations among Hb, iron status, and inflammation and birth outcomes

a. To determine if there are associations between hemoglobin or iron status (at baseline or 36 wk gestation, or the change between baseline and 36 wk) and birth outcomes (including small for gestational age (SGA), preterm birth, low birth weight (LBW), newborn stunting, and newborn small head circumference (HC)).
b. To determine the associations among CRP, AGP, Hb, ZPP, and sTfR at enrollment and 36 gw, and among the change from enrollment to 36 gw in these markers.
c. To determine the associations between elevated CRP or AGP and birth outcomes (such as those listed above).

2. Hypotheses

2.1. Main effect of intervention on Hb, iron status, and inflammation

a. Women who receive IFA during pregnancy will have higher Hb and lower sTfR and ZPP at 36 gestational weeks (gw) compared to the MMN and LNS groups.
b. The percentage of women with Hb below 100 g/L will be lower in the IFA group at 36 gw compared to the MMN and LNS groups.
c. The percentage of women with Hb above 130 g/L will be higher in the IFA group at 36 gw compared to the MMN and LNS groups.
d. The percentages of women with elevated ZPP and sTfR will be lower in the IFA group compared to the MMN and LNS groups.
e. At 36 gw, the prevalence of elevated CRP or AGP will be greater in the IFA group than the MMN or LNS groups.

2.2. Associations among Hb, iron status, and inflammation and birth outcomes

a. There is an inverted U-shaped relationship between maternal Hb or iron status (at baseline or 36 gw, or change from baseline to 36 gw) and mean gestational length, birth weight and length, and newborn HC, and a U-shaped relationship between these biomarkers and preterm birth. Odds of having a newborn with LBW, stunting, small HC, or SGA will be greater among women who were iron deficient or anemic during pregnancy. Odds of these adverse birth outcomes will be greater among women with elevated Hb during pregnancy.
b. Both CRP and AGP will be inversely associated with Hb at both enrollment and 36 gw, but not associated with either ZPP or sTfR at either time point.
c. There will be inverse associations between markers of inflammation and birth weight and length, and HC. Odds of having a newborn with LBW, stunting, small HC, or SGA will be greater among women with elevated CRP or AGP.

3. Outcome measures

i. Maternal Hb, iron status and inflammation outcomes at 36 gestational weeks

a. Hemoglobin (Hb) in g/L was analyzed by Hemocue autoanalyzer.
b. Zinc protoporphyrin (ZPP) in μmol/mol heme was analyzed on washed erythrocytes by hematofluorometer of the Aviv Biomedical Co. (Lakewood, NJ, USA).
c. Soluble transferrin receptor (sTfR) in mg/Lwas analyzed immunoturbidimetrically on a Roche Integra autoanalyzer.
d. C-reactive protein (CRP) in mg/L was analyzed immunoturbidimetrically on a Roche Integra autoanalyzer.
e. Alpha-1 acid glycoprotein (AGP) in g/L was analyzed immunoturbidimetrically on a Roche Integra autoanalyzer.

ii. Birth outcome measures

a. Gestational age at delivery in weeks
b. Weight in g
c. Length in cm
d. Head circumference in cm
e. Weight-for-age z-score (WAZ)
f. Length for-age z-score (LAZ)
g. Head-for-age z-score (HCZ)
h. BMI-for-age z-score (BMIZ)
i. Low birth weight (LBW)
j. Low birth length (LBL)
k. Small head circumference (SHC)
l. Small for gestational age (SGA)

4. Definitions

a. Low Hb or lower cutoff used to define anemia is 100 g/L, and the high Hb or upper cut-off used to define excessive Hb is 130 g/L. In exploratory analyses, the proportion of participants with Hb < 90 g/L or < 110 g/L, and > 145 g/L, will also be examined.
b. High ZPP or upper cut-off of ZPP representing iron deficiency: >60 μmol/mol heme.
c. High sTfR or upper cutoff of sTfR used to define iron deficiency: >4.4 mg/L
d. High CRP or upper cutoff of CRP used to define an inflammatory response is 5.0 mg/L.
e. High AGP or upper cutoff of AGP used to define an inflammatory response is 1.0 g/L.
f. Pre-term delivery: delivery at < 37 gestational weeks
g. LBW: birth weight less than 2500 g.
h. LBL: LAZ < -1.0
i. Small Head circumference (HC): HCZ < -1.0
j. Small for gestational age will be defined as birth weight < 10^{th} percentile for infants of the same gestational age from a U.S. population (Alexander, 1996).

5. Basis for the analysis: Intention to treat and per protocol

The primary analysis will be by intention-to-treat. That is, results for all women enrolled will be analyzed according to the group to which they were assigned regardless of any protocol violations. Data on participants who were lost to follow-up because of death, travel from the study site, or refusal to continue with the study will be included in the analysis if available.

6. Time points

Blood samples were collected for Hb, ZPP, sTfR, CRP and AGP analyses at enrollment and 36 gw. Birth outcomes were measured generally within 48 h of birth.

7. Statistics software

Analyses will be performed using SAS version 9.3.

8. Outliers

Outliers will be visually inspected by creating box and whisker plots and/or histograms of individual continuous variables, and scatterplots of related variables. Outliers which are clearly impossible or implausible values will be corrected if possible, or recoded to missing if correction is not possible. Outliers which are plausible or possible will be kept.

9. Data transformation

Distribution of outcome variables and key baseline variables will be inspected for normality and transformed as necessary. If no suitable transformation is found, normalized ranks will be calculated, or categories will be created.

10. Interaction

Interactions will be examined between the intervention group and selected variables on their association with maternal iron status and birth outcome variables. If a statistically significant interaction ($p<0.05$) is found, group means will be examined at different levels of the predictor variable, either by category for categorical predictors, or at the 10^{th}, 50^{th}, and 90^{th} percentiles for continuous variables. Variables that show no interaction with the intervention group can be used as covariates in the main analysis. Variables included (as continuous variables where possible) in this analysis include:

1. Maternal BMI at enrollment
2. Inflammatory markers (CRP and AGP) at enrollment
3. Primiparity
4. Season at enrollment
5. Either Hb, or anemia at enrollment
6. ZPP at enrollment
7. sTfR at enrollment
8. Gestational age at enrolment
9. Age
10. Education
11. Assets index
12. Housing index
13. HH food insecurity index

11. Covariates

The covariates to be included in the ANCOVA or logistic regression models will be derived from the list below. Each variable that show a statistically significant association with each outcome ($P<0.1$), will be included in the model.

1. Maternal BMI at enrollment
2. Inflammatory markers (CRP and AGP) at enrollment
3. Primiparity
4. Season at enrollment
5. Either Hb, or anemia at enrollment
6. ZPP at enrollment
7. sTfR at enrollment
8. Gestational age at enrolment
9. Age
10. Education
11. Assets index
12. Housing index
13. HH food insecurity index

12. Confidence intervals

The calculated ratios and differences in between-group comparisons will be complemented with confidence intervals (at 95% level), for descriptive purposes. For continuous outcomes, confidence intervals will be based on ANOVA or ANCOVA and for binary outcomes CI's will be based on logistic regression.

13. Presentation of study findings

13.1. Baseline characteristics of women will be presented as shown in Table 1.

13.2. <u>Main effect of intervention on Hb and iron status</u>

Adjusted (ANCOVA) and unadjusted group means and standard deviations for Hb, and geometric mean (95% CI) for ZPP and sTfR will be tabulated by intervention group (Table 2). This analysis will also indicate the pairwise differences in means or geometric means and their 95% confidence intervals, with Tukey-Kramer adjustments. Only covariates significantly associated with an outcome at 10% level of significance in a bivariate analysis will be include in the final adjusted analysis. This means there may be different sets of covariates for each outcome

The proportion of women with Hb, ZPP, and sTfR above or below specified cutoffs will be tabulated by intervention group as shown in Table 3. Global null hypothesis of no differences between groups will be tested with chi-square test or Fisher's exact test. Pairwise comparisons between groups will be done in the context of logistic regression if global null-hypothesis is rejected with $P<0.05$. Risk ratios between intervention groups are also presented in Table 3.

Logistic regression with and without covariates will be used to estimate the odds of adverse birth outcomes among those with low Hb, or elevated Hb, ZPP and sTfR (Table 4).

13.3. Associations between Hb, ZPP, sTfR vers birth outcomes

Pearson's correlation coefficients will be calculated to determine associations between Hb, ZPP, and sTfR at enrollment and 36 gw, and birth weight, birth length, and newborn head circumference (Table 5). In addition, partial correlation coefficients or multiple regression with standardized coefficients will be used to determine the associations between change in Hb, ZPP, and sTfR from enrollment to 36 gw and birth outcomes, adjusting for the same covariates as described in section 11 above.

13.4. Associations between Hb, ZPP, sTfR, CRP, and AGP

Pearson's correlation coefficients will be calculated to determine the associations between Hb, ZPP, and sTfR at both enrollment and 36 gw and CRP and AGP (Table 5). In addition partial correlation coefficients or multiple regression with standardized coefficients will be used to determine the associations between change in Hb, ZPP, and sTfR from enrollment to 36 gw and birth outcomes, adjusting for the same covariates as described in section 10 above.

13.5. Effect of intervention on inflammatory markers

The proportion of women with CRP and AGP above the specified cutoffs will be tabulated by intervention group as shown in Table 6. Global null hypothesis of no differences between groups will be tested with chi-squared test or Fisher's exact test. Pairwise comparisons between groups will be done in the context of logistic regression if global null-hypothesis is rejected with $P<0.05$. Risk ratios between intervention groups are also presented in Table 6.

Logistic regression will be used to estimate the odds of adverse birth outcomes among those with elevated CRP and AGP at baseline and 36 gw (Table 7).

Reference

Alexander GR, Himes JH, Kaufman RB, Mor J, Kogan M. A United States national reference for fetal growth. Obstet Gynecol 1996;87(2):163-8. doi: 10.1016/0029-7844(95)00386-X.

Table 1
Baseline characteristics of women who completed the study

Variable	**IFA** ($\bar{x}$ ± SD) [n]	**MMN** ($\bar{x}$ ± SD) [n]	**LNS** ($\bar{x}$ ± SD) [n]	**P-value**
Number of participants	xxx	xxx	xxx	
Age (y)	xx.x ± x.x [xxx]	xx.x ± x.x [xxx]	xx.x ± x.x [xxx]	x.xxx
Years of formal education	xx.x ± x.x [xx]	xx.x ± x.x [xx]	xx.x ± x.x [xx]	x.xxx
Married or cohabiting (% [n])	xxx.x [xxx]	xxx.x [xxx]	xxx.x [xxx]	x.xxx
Proxy for socioeconomic status	x.x ± x.x [xxx]	x.x ± x.x [xxx]	x.x ± x.x [xxx]	x.xxx
Primiparous women (% [n])	xxx.x [xxx]	xxx.x [x]	xxx.x [xxx]	x.xxx
Weight (kg)	xx.x ± x.x [xxx]	xx.x ± x.x [xxx]	xx.x ± x.x [xxx]	x.xxx
Height (m)	x.x ± x.x [xxx]	x.x ± x.x [xxx]	x.x ± x.x [xxx]	x.xxx
BMI (kg/m^2)	xx.x ± x.x [xxx]	x.x ± x.x [xxx]	x.x ± x.x [xxx]	x.xxx
Women with a low BMI (< 18.5 kg/m²) (% [n])	xxx.x [xxx]	xxx.x [xxx]	xxx.x [xxx]	x.xxx
Mid upper arm circumf. (cm)	xx.x ± x.x [xxx]	xx.x ± x.x [xxx]	xx.x ± x.x [xxx]	x.xxx
Triceps skinfold (cm)	xx.x ± x.x [xxx]	xx.x ± x.x [xxx]	xx.x ± x.x [xxx]	x.xxx
Gestational age at enrolment (wk)	xx.x ± x.x [xxx]	xx.x ± x.x [xxx]	xx.x ± x.x [xxx]	x.xxx
Positive rapid test for malaria (% [n])	xx.x [xxx]	xx.x [xxx]	xx.x [xxx]	x.xxx

Table 2: Adjusted and unadjusted differences between groups in baseline and change from baseline mean (SD) Hb and geometric mean (95% CI) ZPP, and sTfR.

Variable		**IFA [n]**	**MMN [n]**	**LNS [n]**	**P-value**	**Comparison of IFA and MMN**		**Comparison of IFA and LNS**		**Comparison of MMN and LNS**	
						P-value	**Difference in means or medians (95 % CI)**	**P-value**	**Difference in means or medians (95 % CI)**	**P-value**	**Difference in means or medians (95 % CI)**
Hb (g/L) (**$\bar{x}$ ± SD) [n]**	Baseline	x.x ± x.x [x]	x.x ± x.x [x]	x.x ± x.x [x]	x.xxx	x.xxx	x.xx (xx to xx)	x.xxx	x.xx (xx to xx)	x.xxx	x.xx (xx to xx)
	Change	x.x ± x.x [x]	x.x ± x.x [x]	x.x ± x.x [x]	x.xxx	x.xxx	x.xx (xx to xx)	x.xxx	x.xx (xx to xx)	x.xxx	x.xx (xx to xx)
ZPP µmol/mol heme (geometric mean (95% CI) [n]	Baseline	x.x (x.x, x.x) [x]	x.x (x.x, x.x) [x]	x.x (x.x, x.x) [x]	x.xxx	x.xxx	x.xx (xx to xx)	x.xxx	x.xx (xx to xx)	x.xxx	x.xx (xx to xx)
	Change	x.x (x.x, x.x) [x]	x.x (x.x, x.x) [x]	x.x (x.x, x.x) [x]	x.xxx	x.xxx	x.xx (xx to xx)	x.xxx	x.xx (xx to xx)	x.xxx	x.xx (xx to xx)
sTfR (mg/L) (geometric mean (95% CI) [n]	Baseline	x.x (x.x, x.x) [x]	x.x (x.x, x.x) [x]	x.x (x.x, x.x) [x]	x.xxx	x.xxx	x.xx (xx to xx)	x.xxx	x.xx (xx to xx)	x.xxx	x.xx (xx to xx)
	Change	x.x (x.x, x.x) [x]	x.x (x.x, x.x) [x]	x.x (x.x, x.x) [x]	x.xxx	x.xxx	x.xx (xx to xx)	x.xxx	x.xx (xx to xx)	x.xxx	x.xx (xx to xx)

Table 3 Differences between groups in the proportions of women with Hb, ZPP, and sTfR above or below specified cutoffs.

		IFA n (%)	**MMN n (%)**	**LNS n (%)**	**P-value**	**Comparison of IFA and MMN**		**Comparison of IFA and LNS**		**Comparison of MMN and LNS**	
						Risk ratio (95 % CI)	**P-value**	**Risk ratio (95 % CI)**	**P-value**	**Risk ratio (95 % CI)**	**P-value**
Hb < 100 g/L	Baseline	x (x.x)	x (x.x)	x (x.x)	0.xx		0.xx		0.xx		0.xx
	36 gw	x (x.x)	x (x.x)	x (x.x)	0.xx	x.xx (x.xx - x. xx)	0.xx	x.xx (x.xx - x. xx)	0.xx	x.xx (x.xx - x. xx)	0.xx
Hb > 130 g/L	Baseline	x (x.x)	x (x.x)	x (x.x)	0.xx		0.xx		0.xx		0.xx
	36 gw	x (x.x)	x (x.x)	x (x.x)	0.xx	x.xx (x.xx - x. xx)	0.xx	x.xx (x.xx - x. xx)	0.xx	x.xx (x.xx - x. xx)	0.xx
ZPP > 60.0 µmol/mol heme	Baseline	x (x.x)	x (x.x)	x (x.x)	0.xx	x.xx (x.xx - x. xx)	0.xx		0.xx		0.xx
	36 gw	x (x.x)	x (x.x)	x (x.x)	0.xx	x.xx (x.xx - x. xx)	0.xx	x.xx (x.xx - x. xx)	0.xx	x.xx (x.xx - x. xx)	0.xx
sTfR > 4.4 mg/L	Baseline	x (x.x)	x (x.x)	x (x.x)	0.xx	x.xx (x.xx - x. xx)	0.xx		0.xx		0.xx
	36 gw	x (x.x)	x (x.x)	x (x.x)	0.xx	x.xx (x.xx - x. xx)	0.xx	x.xx (x.xx - x. xx)	0.xx	x.xx (x.xx - x. xx)	0.xx

Table 4. Associations among low Hb and elevated Hb, ZPP and sTfR at baseline and 36 gw versus adverse birth outcomes, by group

			LBW (< 2500g)			Newborn stunting (LAZ< -2.0)			Small HC (HC z-score < -2.0)			SGA (< 10th percentile)		
		n	Prevalence (%)	OR (95% CI)	*P*	Prevalence (%)	OR (95% CI)	*P*	Prevalence (%)	OR (95% CI)	*P*	Prevalence (%)	OR (95% CI)	*P*
Baseline														
	Hb ≥ 90 g/L	xxx	xx.x	1 (--)	--	xx.x	1 (--)	--	xx.x	1 (--)	--	xx.x	1 (--)	--
	Hb < 90 g/L	xxx	xx.x	x.x (x.x – x.x)	0.xx	xx.x	x.x (x.x – x.x)	0.xx	xx.x	x.x (x.x – x.x)	0.xx	xx.x	x.x (x.x – x.x)	0.xx
	Hb ≤ 130 g/L	xxx	xx.x	1 (--)	--	xx.x	1 (--)	--	xx.x	1 (--)	--	xx.x	1 (--)	--
	Hb > 130 g/L	xxx	xx.x	x.x (x.x – x.x)		xx.x	x.x (x.x – x.x)		xx.x	x.x (x.x – x.x)		xx.x	x.x (x.x – x.x)	0.xx
	ZPP ≤ 60.0 µmol/mol heme	xxx	xx.x	1 (--)	--	xx.x	1 (--)	--	xx.x	1 (--)	--	xx.x	1 (--)	--
	ZPP > 60.0 µmol/mol heme	xxx	xx.x	x.x (x.x – x.x)	0.xx	xx.x	x.x (x.x – x.x)	0.xx	xx.x	x.x (x.x – x.x)	0.xx	xx.x	x.x (x.x – x.x)	0.xx
	sTfR ≤ 4.4 mg/L	xxx	xx.x	1 (--)	--	xx.x	1 (--)	--	xx.x	1 (--)	--	xx.x	1 (--)	--
	sTfR > 4.4 mg/L	xxx	xx.x	x.x (x.x – x.x)		xx.x	x.x (x.x – x.x)		xx.x	x.x (x.x – x.x)		xx.x	x.x (x.x – x.x)	
36 gw														
	Hb ≥ 90 g/L	xxx	xx.x	1 (--)	--	xx.x	1 (--)	--	xx.x	1 (--)	--	xx.x	1 (--)	--
	Hb < 90 g/L	xxx	xx.x	x.x (x.x – x.x)	0.xx	xx.x	x.x (x.x – x.x)	0.xx	xx.x	x.x (x.x – x.x)	0.xx	xx.x	x.x (x.x – x.x)	0.xx
	Hb ≤ 130 g/L	xxx	xx.x	1 (--)	--	xx.x	1 (--)	--	xx.x	1 (--)	--	xx.x	1 (--)	--
	Hb > 130 g/L	xxx	xx.x	x.x (x.x – x.x)		xx.x	x.x (x.x – x.x)		xx.x	x.x (x.x – x.x)		xx.x	x.x (x.x – x.x)	0.xx
		xxx	xx.x	1 (--)	--	xx.x	1 (--)	--	xx.x	1 (--)	--	xx.x	1 (--)	--
	ZPP ≤ 60.0 µmol/mol heme	xxx	xx.x	x.x (x.x – x.x)		xx.x	x.x (x.x – x.x)		xx.x	x.x (x.x – x.x)		xx.x	x.x (x.x – x.x)	0.xx
	ZPP > 60.0 µmol/mol heme	xxx	xx.x	1 (--)	--	xx.x	1 (--)	--	xx.x	1 (--)	--	xx.x	1 (--)	--
		xxx	xx.x	x.x (x.x – x.x)		xx.x	x.x (x.x – x.x)		xx.x	x.x (x.x – x.x)		xx.x	x.x (x.x – x.x)	0.xx
	sTfR ≤ 4.4 mg/L	xxx	xx.x	1 (--)	--	xx.x	1 (--)	--	xx.x	1 (--)	--	xx.x	1 (--)	--
	sTfR > 4.4 mg/L	xxx	xx.x	x.x (x.x – x.x)		xx.x	x.x (x.x – x.x)		xx.x	x.x (x.x – x.x)		xx.x	x.x (x.x – x.x)	0.xx

Table 5. Correlation coefficients for the associations among Hb and iron status versus inflammation and birth outcome measures

	CRP (mg/L)	**AGP (g/L)**	**Birth weight (g)**	**Birth length (cm)**	**Head Circumference (cm)**
Hb at baseline (g/L)[a]	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx
Hb at 36 gw (g/L) [a]	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx
Change (g/L)[b]	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx
ZPP at baseline (µmol/mol heme) [a]	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx
ZPP at 36 gw (µmol/mol heme) [a]	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx
Change (µmol/mol heme) [b]	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx
sTfR at baseline (mg/L) [a]	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx
sTfR at 36 gw (mg/L) [a]	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx
Change (mg/L) [b]	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx	0.xx/0.xx

[a]Pearon correlations

[b] Partial correlations

Table 6. Differences between groups in the proportions of women with CRP or AGP above specified cutoffs.

		IFA n (%)	MMN n (%)	LNS n (%)	P-value	Comparison of IFA and MMN		Comparison of IFA and LNS		Comparison of MMN and LNS	
						Risk ratio (95 % CI)	P-value	Risk ratio (95 % CI)	P-value	Risk ratio (95 % CI)	P-value
CRP > 5.0 mg/L	Baseline	x (x.x)	x (x.x)	x (x.x)	0.xx		0.xx		0.xx		0.xx
	36 gw	x (x.x)	x (x.x)	x (x.x)	0.xx	x.xx (x.xx - x. xx)	0.xx	x.xx (x.xx - x. xx)	0.xx	x.xx (x.xx - x. xx)	0.xx
AGP > 1.0 g/L	Baseline	x (x.x)	x (x.x)	x (x.x)	0.xx		0.xx		0.xx		0.xx
	36 gw	x (x.x)	x (x.x)	x (x.x)	0.xx	x.xx (x.xx - x. xx)	0.xx	x.xx (x.xx - x. xx)	0.xx	x.xx (x.xx - x. xx)	0.xx

Table 7. Association between inflammation at baseline and 36 gw and adverse birth outcomes.

			LBW (< 2500g)			Newborn stunting (LAZ< -2.0)			Small HC (HC z-score < -2.0)			SGA (< 10th percentile)		
		n	Prevalence (%)	OR (95% CI)	*P*	Prevalence (%)	OR (95% CI)	*P*	Prevalence (%)	OR (95% CI)	*P*	Prevalence (%)	OR (95% CI)	*P*
Baseline Inflammation														
	CRP ≤ 5.0 mg/L	xxx	xx.x	1 (--)	--	xx.x	1 (--)	--	xx.x	1 (--)	--	xx.x	1 (--)	--
	CRP > 5.0 mg/L	xxx	xx.x	x.x (x.x – x.x)	0.xx	xx.x	x.x (x.x – x.x)	0.xx	xx.x	x.x (x.x – x.x)	0.xx	xx.x	x.x (x.x – x.x)	0.xx
	AGP ≤ 1.0 g/L	xxx	xx.x	1 (--)	--	xx.x	1 (--)	--	xx.x	1 (--)	--	xx.x	1 (--)	--
	AGP > 1.0 g/L	xxx	xx.x	x.x (x.x – x.x)		xx.x	x.x (x.x – x.x)		xx.x	x.x (x.x – x.x)		xx.x	x.x (x.x – x.x)	
Inflammation at 36 gw														
	CRP ≤ 5.0 mg/L	xxx	xx.x	1 (--)	--	xx.x	1 (--)	--	xx.x	1 (--)	--	xx.x	1 (--)	--
	CRP > 5.0 mg/L	xxx	xx.x	x.x (x.x – x.x)	0.xx	xx.x	x.x (x.x – x.x)	0.xx	xx.x	x.x (x.x – x.x)	0.xx	xx.x	x.x (x.x – x.x)	0.xx
	AGP ≤ 1.0 g/L	xxx	xx.x	1 (--)	--	xx.x	1 (--)	--	xx.x	1 (--)	--	xx.x	1 (--)	--
	AGP > 1.0 g/L	xxx	xx.x	x.x (x.x – x.x)		xx.x	x.x (x.x – x.x)		xx.x	x.x (x.x – x.x)		xx.x	x.x (x.x – x.x)	