Table S1: Detailed account of outcome reporting in randomized trials of iron interventions for iron deficiency and iron deficiency anemia in the perinatal period.

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| **Domain** | **Proposed Outcome** | **Original Outcome** | **Number of studies n (%)** | **Primary Outcome vs. Secondary Outcome**  **(n)** | **Timing of Measurement**  **(n)** | **Definition**  **(n)** | **Measure**  **(n)** |
| **Antenatal (n=26)** | | | | | | | |
| **Hematologic Indices of Anemia** | Hemoglobin Change | Hb (variable timing of test)  Pre-delivery Hb  Proportion reaching target Hb  Target Hb achievement rate  Time to Target Hb  Rate of Anemia at end of Treatment | 22 (85%) | Primary (12)  Secondary (3)  NS (10) | At weeks:  1 ATI (2)  2 ATI (7)  3, 11 ATI (1)  4 ATI (16)  6 ATI (3)  8 ATI (7)  13 ATI (2)  At 37 wks GA (1)  At birth (9)  At 24h PP (1)  NS (3) | g/dL (17)  g/L (4)  weeks (1) | NS (15)  MMP (7) |
| Red Blood Cells | RBC | 2 (8%) | NS (2) | At weeks:  4 ATI (2)  6, 8, 11 ATI (1) | x103 (1) million/cm (1) | NS (2) |
| Reticulocyte Count | Reticulocyte count | 4 (15%) | Primary (1)  Secondary (1)  NS (2) | At weeks:  1 ATI (3)  2 ATI (4)  3, 4 ATI (2)  At birth (1) | % (3)  106/mm3 (1)  % change (1) | NS (3)  MMP (1) |
| Hematocrit | Hematocrit  PCV  Correction of Anemia  Satisfactory response | 7 (27%) | Primary (1)  Secondary (1)  NS (5) | At weeks:  1, 3, 6, 13 ATI (1)  2 ATI (3)  4 ATI (5)  8 ATI (2)  At 37 weeks GA (1) | % (6)  % who achieved PCV  >33% at end of 6 weeks (1)  % in whom PCV up >3% in 2 weeks (1) | NS (5)  MMP (2) |
| Red Cell Indices | MCV | 6 (23%) | Secondary (2)  NS (4) | At weeks:  2, 6, 11, 13 ATI (1)  4 ATI (5)  8 ATI (3)  At 37 weeks GA (1) | fL (6) | NS (5)  MMP (1) |
| MCH | 4 (15%) | Secondary (1)  NS (3) | At weeks:  4, 8 ATI (3)  6, 11, 13 ATI (1) | pg (4) | NS (3)  MMP (1) |
| MCHC | 3 (12%) | Secondary (1)  NS (2) | At weeks:  4 ATI (2)  6, 11, 13 ATI (1)  8 ATI (3) | g/dL (3) | NS (2)  MMP (1) |
| Red Cell Indices | 1 (4%) | NS (1) | At week 1, 2, 6 ATI (1) | NS (1) | NS (1) |
| **Hematologic Indices of Iron Deficiency** | Ferritin | Ferritin | 15 (58%) | Primary (2)  Secondary (5)  NS (8) | At weeks:  1, 3, 13 ATI (1)  2 ATI (5)  4 ATI (13)  6 ATI (2)  8 ATI, birth (3) | ug/L (5)  ng/mL (9)  ug/dL (1) | NS (9)  MMP (6) |
| Serum Iron | Serum Iron | 6 (23%) | Secondary (2)  NS (4) | At weeks:  4 ATI (5)  8 ATI (3)  13 ATI (2)  At birth (1) | ug/dL (4) umol/L (1) ug/dL (1) | NS (4)  MMP (2) |
| Transferrin | Transferrin | 1 (4%) | NS (1) | At weeks:  4 ATI (1)  At birth (1) | g/L (1) | NS (1) |
| Transferrin Saturation | Transferrin Saturation | 5 (19%) | Secondary (2)  NS (3) | At weeks:  1, 2, 3, 13 ATI  4 ATI (5)  8 ATI (2)  At birth (1) | % (5) | NS (5) |
| Total Iron Binding Capacity | TIBC | 1 (4%) | Secondary (1) | At weeks:  4 ATI (1) | mcg/dL (1) | MMP (1) |
| --- | Serum prohepcidin | 1 (4%) | NS (1) | At weeks:  4 ATI (1) | ng/mL (1) | MMP (1) |
| --- | Correction of ID | 1 (4%) | NS (1) | At weeks:  4 ATI (1) | % of patients with corrected ID  Definition NS further (1) | NS (1) |
| **Safety and Acceptability** | Adverse Effects | Adverse Effects  Adverse Events  Adverse Reactions  Serious Reactions  Side Effects  Digestive side-effects | 22 (85%) | Primary (3)  Secondary (5)  NS (14) | NS (11)  At each visit (6)  Daily self-record (2)  72h & weekly (1)  At weeks:  1, 2, 4, 6, 8 ATI (1) | No *a priori* definition (13)  Defined *a priori*, varying detail (8)  Not defined at all (1) | NS (9)  Self-report [of which six had no proforma] (7)  Various approaches for review in person or by phone; proforma NS (6) |
| Safety | Safety | 3 (12%) | Secondary (1)  NS (2) | NS (2)  At each visit (1) | Not defined at all (2)  No *a priori* definition (1) | NS (1)  Assessed by monitoring adverse events & vital signs (2) |
| --- | Tolerability | 1 (4%) | Secondary (1) | At weeks 2, 6, at birth, PP (1) | NS (1) | Survey re: tolerability [not provided] (1) |
| Adherence | Compliance/  Adherence | 13 (50%) | Primary (2)  Secondary (1)  NS (10) | At weeks:  2, 6 ATI (1)  4, 8 ,13 ATI (1)  At birth (1)  PP (1)  Each visit (1)  Every 2 weeks (1)  NS (8) | NS (7)  Self-Reported - NS (1)  Number or % of returned tablets (2)  % of compliant patients; definition of compliance NS (3) | NS (3)  Self-report in calendar (provided) (2)  Pill count of returned tablets (4)  Count of empty blister packs (2)  Predesigned survey (not provided) (1)  By phone (NS) (1) |
|  | Cost Effectiveness | 1 (4%) | NS (1) | NS (1) | Comparison of direct & indirect costs of treatments (1) | MMP (1) |
| **Maternal Outcomes** | Hospitalization | Hospitalization | 2 (8%) | NS (2) | NS (1)  MRA (1) | Days (1)  NS (1) | MRA (1)  NS (1) |
| Improvement in symptoms of anemia | Clinical Symptom Improvement | 5 (19%) | NS (5) | NS (2)  PP (1)  Every 2 weeks (1)  At week 4 ATI (1) | NS (3)  Symptoms of IDA: fatigue, malaise, irritability, reduced work performance, loss of appetite, giddiness, breathlessness, palpitations (1)  Pre-treatment maternal morbidities, all improved with treatment: tiredness, nausea, UTI, headache premature contractions, orthostatic dysfunction (1) | NS (4)  MMP (1) |
| Signs of anemia |
| Symptoms of IDA |
| % with complete symptom relief |
| Maternal Outcomes |
| Quality of Life | Quality of Life | 2 (8%) | NS (2) | At weeks:  2, 6 ATI (1)  4 ATI (1)  At 28 & 34 weeks GA (1)  PP (1)  PP 6-8 weeks (1) | NS (2) | NS (1)  MMP (1) |
| Perceived HRQoL |
| **Obstetric Outcomes** | RBC Transfusion | Blood Transfusion | 7 (27%) | NS (7) | NS (2)  AP or PP (4)  PP (1) | NS [i.e. units vs. episodes] (3)  Units of PRBCs (2)  # or % receiving RBC transfusion (2) | NS (6)  MRA (1) |
| Mode of Delivery | Type of Birth/  Mode of Delivery | 3 (12%) | Secondary (1)  NS (2) | NS (2)  MRA (1) | Categorical variable (2)  NS (1) | MRA (1)  NS (2) |
| Preterm Birth | Preterm labour/delivery | 2 (8%) | NS (2) | NS (2) | NS (2) | NS (2) |
| Hypertensive Disorders of Pregnancy | Gestational Hypertension/  Preeclampsia | 1 (4%) | NS (1) | NS (1) | NS (1) | NS (1) |
| Signs of Placental Insufficiency | Intrauterine Growth Restriction & placental insufficiency by u/s | 1 (4%) | NS (1) | NS (1) | NS (1) | NS (1) |
| Placental Weight | Placental weight | 1 (4%) | NS (1) | NS (1) | NS (1) | NS (1) |
| Breastfeeding | Breastfeeding | 1 (4%) | NS (1) | NS (1) | Months [required frequency of BF NS] (1) | MRA (1) |
| **Neonatal Outcomes** | GA at birth | GA at birth | 7 (27%) | Secondary (3)  NS (4) | NS (6)  MRA (1) | Weeks (7) | MRA (1)  NS (6) |
| Birthweight | Birthweight  Neonatal weight | 9 (35%) | Secondary (4)  NS (5) | NS (8)  MRA (1) | g (6)  kg (2)  NS (1) | MRA (1)  NS (8) |
| Low birthweight | 1 (4%) | NS (1) | NS (1) | kg (1) | NS (1) |
| Gender | Infant’s gender | 1 (4%) | NS (1) | NS (1) | NS (1) | MRA (1) |
| Apgar Scores | Apgar Scores | 1 (4%) | Secondary (1) | 1, 5, & 10 min (1) | NS (1) | NS (1) |
| Cord Hemoglobin | Cord Hemoglobin | 4 (15%) | Secondary (2)  NS (2) | At birth (4) | g/dL(3)  g/L (1) | NS (1) |
| Cord Ferritin | Neonatal Cord Ferritin | 4 (15%) | Secondary (2)  NS (2) | At birth (4) | ug/L (2) ng/mL (2) | NS (4) |
| Admission to NICU | Admission to NICU | 1 (4%) | Secondary (1) | NS (1) | Categorical Outcome (1) | NS (1) |
| Neonatal Death | NND | 1 (4%) | Secondary (1) | NS (1) | NND in 1st 4 weeks of life (1) | NS (1) |
| **Composite Outcomes** | --- | Maternal Iron Stores | 1 (4%) | Primary (1) | At birth (1) | serum iron; transferrin; ferritin (1) | MMP (1) |
| --- | Improvement in Hematologic Parameters | 1 (4%) | Primary (1) | At weeks 1, 2, 3, 4 ATI, at birth (1) | Hb, MCV, MCH, reticulocyte count, MCHC (1) | NS (1) |
| --- | Improvement in Iron Parameters | 1 (4%) | NS (1) | At week 11 (1) | ferritin, serum iron, TSAT; TIBC (1) | NS (1) |
| --- | Improvement in median haematologic parameters and iron indices | 1 (4%) | NS (1) | At week 6 (1) | Hb, PCV, RBC, MCV, MCH, MCHC, platelets, reticulocyte count, leukocyte count, serum iron, TIBC, TSAT, ferritin (1) | NS (1) |
| --- | Incidence of ID/ IDA at end of Treatment | 1 (4%) | Secondary (1) | At week 8 ATI or birth (1) | Hb, MCV, ferritin, serum iron, transferrin, TSAT (1) | NS (1) |
| --- | Maternal Complications | 1 (4%) | Secondary (1) | NS (1) | PPH, defective lactation [NS further] (1) | NS (1) |
| --- | Pregnancy Outcomes | 1 (4%) | Secondary (1) | NS (1) | MOD, GA at birth, BW, birth length, birth HC, placental weight, PTB, SGA, fetal distress, gender, blood loss at birth (1) | NS (1) |
| --- | Perinatal Outcome | 1 (4%) | Secondary (1) | MRA (1) | MOD, GA at birth, BW (1) | MRA (1) |
| **Miscellaneous** | Incidence of hemoconcentration at end of treatment | Incidence of hemoconcentration at end of treatment | 1 (4%) | Secondary (1) | At week 8 ATI or birth (1) | %; hemo-concentration defined as Hb >130 g/L (1) | NS (1) |
| Serum IL-6 | Serum IL-6 | 1 (4%) | NS (1) | At week 4 ATI (1) | pg/ml (1) | MMP (1) |
| Folate | Folate | 1 (4%) | NS (1) | At week 4, 8 ATI (1) | ng/ml (1) | NS (1) |
| Erythropoietin Level | Erythropoietin Level | 1 (4%) | NS (1) | Weekly (1) | u/L (1) | MMP (1) |
| Infant’s Progress | Infant’s growth | 1 (4%) | NS (1) | NS (1) | NS (1) | MMP (1) |
| Infant’s weight | MRA (1) |
| Infant’s hospitalization | MRA (1) |
| Infant’s sleep quality | NS (1) |
| **Postpartum (n=9)** | | | | | | | |
| **Hematologic Indices of Anemia** | Hemoglobin Change | Hemoglobin  Rate of Anemia at end of treatment | 7 (78%) | Primary (2)  NS (5) | At weeks:  1, 6 ATI (3)  2 ATI (4)  3, 4, 24 ATI (1)  8 ATI (2)  At birth (1) | g/dL (5)  g/L (2) | NS (7) |
| Hematocrit | Hematocrit | 2 (22%) | NS (2) | At weeks:  1, 2 ATI (2)  6 ATI (1) | % (2) | NS (2) |
| Red Cell Indices | MCV | 3 (33%) | NS (3) | At weeks:  1, 2, 6 ATI (2)  24 ATI (1) | fL (3) | NS (3) |
| MCH | 1 (11%) | NS (1) | At weeks:  1, 2, 6 ATI (1) | No results for variable (1) | NS (1) |
| Red Cell Indices | 1 (11%) | NS (1) | At weeks  1, 2, 6 ATI (1) | NS (1) | NS (1) |
| **Hematologic Indices of Iron Deficiency** | Ferritin | Ferritin | 4 (44%) | NS (4) | At weeks:  1 ATI (2)  2, 6 ATI (3)  24 ATI (1) | ug/L (4) | NS (4) |
| Serum Iron | Serum Iron | 3 (33%) | NS (3) | At weeks:  1 ATI (3)  2, 6 ATI (2)  4 ATI (1) | nmol/L(2) ug/L (1) | NS (3) |
| Transferrin Saturation | Transferrin Saturation | 1 (11%) | NS (1) | At week 24 ATI (1) | % (1) | NS (1) |
| **Safety and Acceptability** | Adverse Effects | Adverse Effects  Adverse Events  Adverse Reactions to Treatment  Serious Reactions  Side Effects  Digestive side-effects | 6 (67%) | Primary (1)  NS (5) | NS (5)  At weeks 2, 4, 6, 8 ATI (1) | *A priori* definition NS (4)  Adverse events defined *a priori* with various degrees of detail (1)  NS (1) | NS; no proforma (1)  Self-report: no proforma (3)  Various approaches for review in person or by phone; proforma NS (2) |
| Adherence | Compliance/  Adherence | 5 (56%) | NS (5) | NS (1)  Pill count day 14 & 40 (1)  At each visit (1)  Every 2 weeks (1) | Definition of compliance NS [i.e. what % of intake = compliance] (1)  NS (4) | Self-report in calendar (2)  Self-report; (NS) (1)  Returned pill count (2)  Returned empty blister pack count (1) |
| **Maternal Outcomes** | Improvement in Symptoms of Anemia | Symptoms | 1 (11%) | NS (1) | NS (1) | NS (1) | Self-report; diary provided (1) |
| Postpartum Depression | Postpartum Depression | 1 (11%) | NS (1) | At weeks:  10 ATI & 36 PP (1) | Pre-defined cut-off NS (1) | MMP (1) |
|  | Non-verbal Intelligence (maternal) | 1 (11%) | NS (1) | At weeks:  10 ATI & 36 PP (1) | Pre-defined cut-off NS (1) | MMP (1) |
| Stress | Perceived Stress | 1 (11%) | NS (1) | At weeks:  10 ATI & 36 PP (1) | Pre-defined cut-off NS (1) | MMP (1) |
| **Obstetric Outcomes** | RBC Transfusion | Blood Transfusion | 1 (11%) | NS (1) | AP or PP (1) | # or % given RBC transfusion [# of units NS] (1) | NS (1) |
| Breastfeeding | Breastfeeding | 1 (11%) | NS (1) | At 36 weeks GA (1) | NS *a priori,*  % of infants BF at 36 weeks (1) | NS (1) |
| **Neonatal Outcomes** | Birthweight | Birthweight | 1 (11%) | NS (1) | NS (1) | g (1) | NS (1) |
| Apgar Scores | Apgar Scores | 1 (11%) | NS (1) | 1 & 5 min (1) | NS (1) | NS (1) |
| Mother-Child Interaction | Mother-Child Interaction | 2 (22%) | NS (2) | At weeks:  10 ATI & 36 PP (2) | Predefined cut-off NS (2) | MMP (2) |
| Infant Development | Infant Development | 1 (11%) | NS (1) | At weeks:  10 ATI & 36 PP (1) | Predefined cut-off NS (1) | MMP (1) |
| **Composite Outcomes** | --- | Improvement in Hematologic Parameters | 1 (11%) | Primary (1) | PP 24-48h, PP week 1, 4, 6 & 12 (1) | Hb, MCV, MCH, reticulocyte count, reticulocyte indices [MCVr (fL)/MCHr (pg)] (1) | MMP (1) |
| --- | Improvement in Iron Parameters | 1 (11%) | Primary (1) | PP 24-48h & PP week 1, 4, 6, &12 PP (1) | ferritin, serum iron, TSAT; soluble transferrin receptor (1) | MMP (1) |
| --- | Incidence of ID/IDA at end of treatment | 1 (11%) | Secondary (1) | At week 8 ATI or birth (1) | Hb, ferritin, serum iron, MCV, transferrin, TSAT (1) | NS (1) |
| --- | Pregnancy Outcomes | 1 (11%) | Secondary (1) | NS (1) | MOD, GA at delivery, BW, birth length, birth HC, placental weight, PTB, SGA, fetal distress, gender, blood loss at birth (1) | NS (1) |
| **Miscellaneous** | Incidence of hemoconcentration at end of treatment | Incidence of hemoconcentration at end of treatment | 1 (11%) | Secondary (1) | At week 8 ATI or birth (1) | %; hemoconcentration defined as Hb >130 g/L (1) | NS (1) |
| Infant’s Progress | Infant weight for age z-score | 1 (11%) | NS (1) | At week 10 ATI & 36 weeks PP (1) | NS (1) | NS (1) |
| Infant height for age z-score | 1 (11%) | NS (1) | At week 10 ATI & 36 weeks PP (1) | NS (1) | NS (1) |
| Infant weight for height z-score | 1 (11%) | NS (1) | 10 weeks ATI & 36 weeks PP (1) | NS (1) | NS (1) |
| AST | SGOT | 1 (11%) | NS (1) | Week 1, 4 ATI (1) | U/L (1) | NS (1) |
| Urine protein | Urine protein | 1 (11%) | NS (1) | Week 1, 4 ATI (1) | g/L (1) | NS (1) |
| AP indicates antepartum; AST, aspartate aminotransferase; ATI, after treatment initiation; BF, breastfeeding; BW, birthweight; GA, gestational age; Hb, hemoglobin; HC, head circumference; HRQoL, health-related quality of life; ID, iron deficiency; IDA, iron deficiency anemia; IL-6, interleukin 6; MCH, mean corpuscular hemoglobin; MCHC, mean corpuscular hemoglobin concentration; MCV, mean corpuscular volume; MMP, measurement method provided; MOD, mode of delivery; MRA, medical record abstraction; NICU, neonatal intensive care unit; NND, neonatal death; NS, not specified; PCV, packed cell volume; PP, postpartum; PPH, postpartum hemorrhage; PTB, preterm birth; RBC, red blood cells; SGA, small for gestational age; SGOT, serum glutamic-oxaloacetic transaminase; TIBC, total iron binding capacity; TSAT, transferrin saturation; u/s, ultrasound, and UTI, urinary tract infection. | | | | | | | |