**Supplementary Table 1. Summary of studies reporting the effect of complementary feeding practices (timing and content) on iron status**

**Author Setting & Population Infant feeding exposure Outcome(s) Reported results**

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1. **Duration of EBF**

Dewey 19987 RCT Honduras Randomised to Iron status at 6mo Higher Hb + SF in combined 4mo

EBF for 4mo+ adlib BF+ solids (n=51) groups

EBF for 4mo+preinterventionBF Hb: 109(10)v104(10)g/l,p<0.05

+solids (n=51) SF: 67.3(64.5)v48.4(44.2)mcg/l,p<0.05

EBF for 6 mo (n=63)

Jonsdottir 201232 RCT Iceland Randomised to: Iron status at 6mo No difference in Hb: 6mo 113.7 (7.3)

EBF for 4mo (n=50) v 4mo 113.9 (6.1),p=0.9

EBF for 6 mo (n=50) SF significantly higher in 6mo group;

median 70 vs 44 µg/L, p=0.02

Dube 201033 Retrospective observational Predominant milk feeding Iron (bioavailable iron) Iron (bioav iron) significantly lower

analysis of data from DINO RCT first 4mo: intake at 4,7,10 mo in BM v FF group:

Breast milk (BM, n=53) Hb/SF at 4,7,10 mo 4mo 6.14 (1.22) v 0.46 (0.15)mg/d

Fe-fortified formula (FF, n=23) 5-7mo 6.99 (1.20) v 1.55 (0.27)mg/d

8-10mo 6.96 (0.88) v 4.81 (0.58)mg/d

4mo: ID in 3BM, 1FF

7mo: ID/IDA in 10/2 BM and 0 FF

10mo: ID/IDA in 11/1 BM and 0 FF

BM significantly lower Hb at 7 + 10 mo

and significantly lower SF at 10mo

Chantry 200735 US Nationally representative Formula-fed (n=1142) History of anaemia Unadjusted analyses:

Cross-sectional surveys FBF<1mo (n=425) Hb/SF for infants 12-24mo NHANES III 105 FBF≥6mo v 2.3%

NHANESIII (1988-94) FBF1-<4mo (n=343) FBF4-5mo had history of anaemia

NHANES 1999-2002 FBF4-<6mo (n=222) (p=0.007); no sig difference in Hb/SF

FBF≥6mo (n=136) Adjusted analyses:

NHANESIII FBF≥6mo lower risk of

history of anaemia (OR 0.2 (0.06,0.63))

NHANES1999-2002 FBF≥6mo lower risk of ID (OR 0.19 (0.06,0.57))

1. **Cows milk**

Hopkins 200769 UK Observational study Type and quantity of milk at 8mo: Hb and SF at 8 and 12mo At 8mo:

ALSPAC 1993-4 Breast milk (BM,n=113) Hb<11g/dl BM 32%, FM 20%, CM 28%

Formula milk (FM,n=687) p=0.009 FM v BM

Cows milk (CM,n=126) Hb<10g/dl BM 9%, FM 7%, CM 9%

SF<16mcg/l BM 5%, FM 2%, CM 7%

P=0.02 FM v CM

At 12mo:

Hb<11g/dl BM27%, FM 15%, CM 27%

P=0.006 FMvBM, FMvCM

Hb<10g/dl BM 11%, FM 3%, CM 5%

P=0.001 FMvBM

SF<16mcg/l BM 5%, FM 3%, CM 11%

P=0.003 FMvCM

25% BM+CM, 41% with>6BF/d had

Iron intake<LRNI

CM>600ml/d or >6BF/d associated with lower solid food intake

Thorisdottir 201270 Prospective cohorts Predominant milk fed at 9mo: Iron status at 12mo: ID: CM 20.5%, BM 2.6%, FM 1.4%

Iceland 1995-6 (n=114) Breast milk (BM,n=87) Iron deficiency (ID,MCV<74, FM v CM sig different

2005 (n=140) Cows milk (CM,n=87) SF<12) Idep CM 42%, BM 14.9%, FM 4.3%

Follow-on formula (FM,n=80) Iron depletion (Idep SF<12) FM v CM sig different

SF positively predicted by FM and

Negatively by CM; BM no effect

1. **Iron-fortified foods v medicinal iron**

Ziegler 200965 RCT in infants predominantly BF Randomised at 4mo: Iron status at 1,4,5.5,7.5,9 SF significantly lower in controls

at 4 mo Medicinal iron (Femed,n=48) 12,15,18,21,24mo during intervention period but no

Intervention 4-9mo Fe-fortified fruit-cereal (Fefood,n=45) differences after 15mo

Control (no Fe,n=59) No sig differences between Femed v

Interventions provided 7-7.5mg Fe/day Fefood

56% control v 23% Fe groups had SF<10mcg/l in second yr (p<0.001)

Length gain slower in Femed group during intervention (p<0.03)

1. **Meat**

Krebs 200666 RCT in EBF infants (Denver US) Randomised to either: Iron and zinc status at 7mo No significant difference in Fe or Zn

Enrolled at 4mo Pureed beef (n=46) status between groups

Intervention 5-7mo Fe-fortified infant cereal (n=42) Serum zinc<60mcg/dl in 20%

as first CF from 5-7mo SF<12mcg/l in 40% meat, 30% cereal

Mean Zn intake from CF at 7mo 25% EAR

Krebs 201367 RCT in EBF infants (Denver US) Randomised at 5mo to: Iron intake monthly No difference in iron status between

Fe+Zn fortified infant cereal (n=15) Iron status at 9mo groups despite significantly higher

Fe fortified cereal (n=15) intake (mg/d) in cereal groups (11.8

Commercial pureed meat (n=15) (1.3) Fe/Zn, 7.5 (1.3) Fe, 3.3 (0.4) meat

as first CF up to 9-10mo SF<15mcg/l in 27%

Hb<11.5g/dl in 36%

No significant differences in growth

Dube 201034 RCT in German infants Randomised to either: Iron status at 4,7,10mo No sig differences between groups

High meat (HM, n=48) 12% by wt Iron status adequate in both

Low meat (LM, n=49) 8% by wt Sub-group of infants FBF for 4-6 commercial baby foods from 4-10mo (27 HM, 26 LM) Hb 12.0 v 11.7g/dl,

p=0.06

Engelmann 1996868 RCT Danish partially BF infants Randomised to CF with either: Iron status at 10mo Decrease in Hb significantly less in

27g/day meat (n=21) HM group (-0.6g/l v -4.9g/l, p=0.008)

10g/day meat (n=20) No significant difference in change in

as purees and sandwich fillings SF

from 8-10mo

Morgan 200485 144 British infants recruited Red and white meat intake from Growth Meat intake 4-12mo positively

at 4mo 7d weighed diaries every 4mo to Development at 22mo associated with weight at 12mo

24mo (BSID) (p<0.05)

Meat intake 4-12mo or 4

16mo positively associated with psychomotor development at 22mo

(p=0.02, p=0.01)