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Background

- Iodine is essential for
 - thyroid hormone synthesis
 - and thus fetal and infant neuro-development.
- Increasing evidence of iodine insufficiency among British women
- We lack knowledge about the impact of iodine insufficiency in pregnancy on thyroid health in the infant.



The Mothers and Babies at Yorkhill (MABY) study is a longitudinal cohort study assessing the iodine and thyroid status of pregnant women and their offspring.

Methods

- **Recruitment:** in antenatal clinics at gestational week (GW) 28+/-1. Target n=697 mother/infant pairs.
- **Samples:** Blood and urine collected at GW 28, 36; and postnatally (PN; week 1, mother & baby) with optional maternal hair and breast milk
- **Iodine intake:** validated iodine-specific food frequency questionnaire at GW 28 and postnatally.
- **Infant thyroid function:** neonatal capillary TSH
- **Urinary iodine:** Sandell-Kolthoff method.

Results

Recruitment at 11 months – November 2015

367 mothers recruited (52% of target sample)
217 babies born
 Drop out & exclusion rate: **8%**

Preliminary data

- High completion rate with all type of sample collected, except breast milk (since not all mothers breastfeed or are able to hand express) (Table 1)
- No infant had a TSH over 3 mIU/L and just less than 7% with a TSH > 2 mIU/L (Fig 1)
- Preliminary urinary iodine analysis is consistent with mild iodine insufficiency observed in the UK (Fig 2)

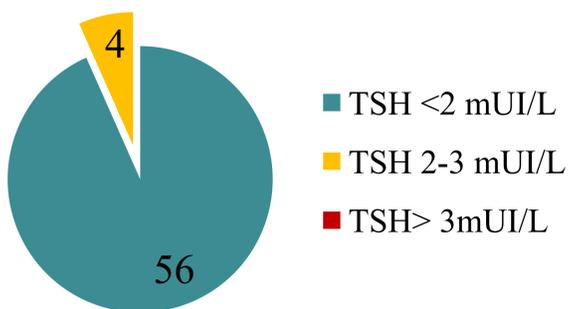


Figure 1: Initial neonatal TSH values from the MABY cohort (n=60)

Table 1: Sample collected at study time-points

	GW28	GW36	PN mum	PN baby
Urine	100%	89%	94%	71%
Blood	95%	87%	98%	85%
Hair			64%	
Breast milk			40%	

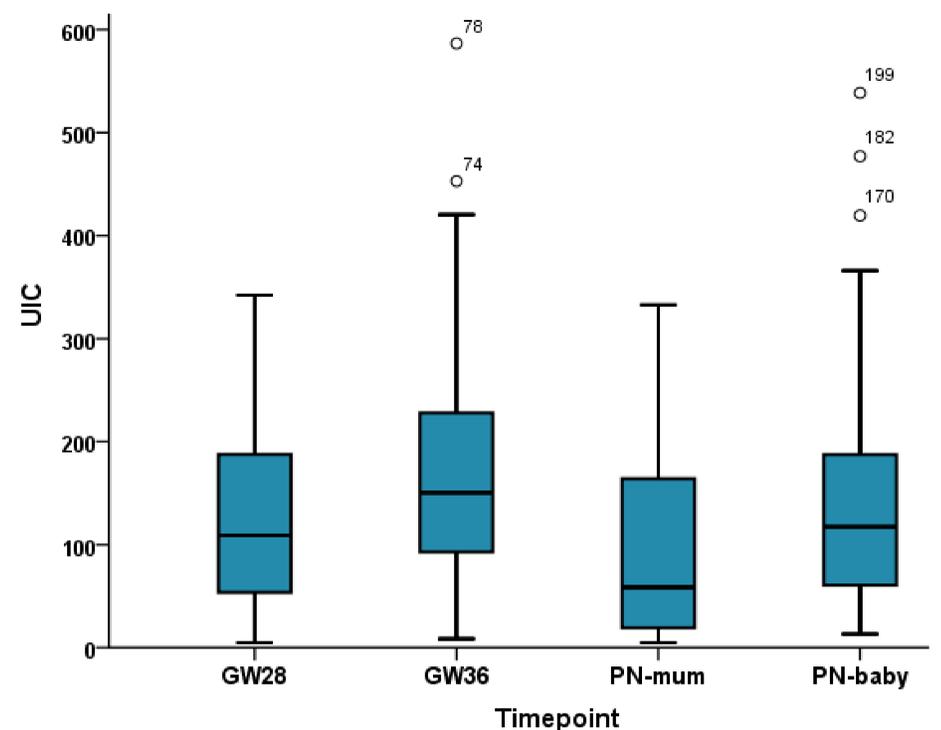


Figure 2: Preliminary urinary iodine status of mothers & baby at selected time-points (n=58, 53, 53, and 36)

Conclusion & Acknowledgements

Enrolment and retention for the MABY study is encouraging with 25% of recruitment target achieved by July and 52% by November. The study is on track to complete recruitment in May 2016.

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