

## SUPPLEMENTARY TABLES

### COMPLETE CASE ANALYSIS

**Supplementary Table S1.** Prenatal iodine intake and maternal pregnancy mental health symptoms scores

	Prenatal Anhedonia symptoms		Prenatal Global EPDS score	
	Odds Ratio (95% CI)		Odds Ratio (95% CI)	
	Crude	Adjusted	Crude	Adjusted
<b>Dietary iodine</b>	n=751	n=705	n=752	n=706
<100µg/day	0.99 (0.56, 1.73)	0.89 (0.49, 1.62)	0.79 (0.45, 1.36)	0.88 (0.49, 1.59)
100-<160µg/day	1.15 (0.69, 1.93)	1.04 (0.60, 1.78)	0.90 (0.55, 1.48)	0.95 (0.55, 1.62)
160-220µg/day	Ref.	Ref.	Ref.	Ref.
>220-<400 µg/day	1.01 (0.58, 1.77)	0.99 (0.55, 1.77)	1.03 (0.61, 1.75)	1.09 (0.61, 1.92)
≥400 µg/day	1.40 (0.77, 2.57)	1.35 (0.72, 2.53)	1.29 (0.72, 2.30)	1.20 (0.64, 2.25)
<b>Dietary and supplemental iodine</b>				
<100µg/day	0.89 (0.50, 1.58)	0.79 (0.43, 1.45)	0.78 (0.44, 1.39)	0.89 (0.48, 1.65)
100-<160µg/day	0.96 (0.56, 1.62)	0.81 (0.47, 1.41)	0.90 (0.53, 1.51)	0.93 (0.53, 1.62)
160-220µg/day	Ref.	Ref.	Ref.	Ref.
>220-<400 µg/day	0.93 (0.55, 1.57)	0.88 (0.51, 1.51)	1.03 (0.62, 1.72)	1.12 (0.65, 1.94)
≥400 µg/day	1.15 (0.65, 2.05)	1.08 (0.59, 1.97)	1.28 (0.73, 2.25)	1.16 (0.63, 2.13)

Models were adjusted for maternal age at birth, child sex, maternal race/ethnicity, education, pre-pregnancy depression, parity, previous treatment for a thyroid disease. Anhedonia was based on items 1 and 2 of the 10-items EPDS (Edinburg depression scale) and those with score of ≥1 were categorized with anhedonia symptoms and 0 with no anhedonia symptoms. Global depressive symptoms was based on score ≥10 on the 10-item EPDS depression scale. Reference for iodine intake was based on the IOM, EAR (160 µg/day) and RDA (220 µg/day) for pregnant women in the US.

Dietary iodine ≥400 µg/day (relative to 160-220µg/day) was associated with increased unadjusted and adjusted odds of prenatal anhedonia symptoms, 1.40 (0.77, 2.57) and 1.35 (0.72, 2.53) respectively. We also found a higher unadjusted and adjusted odds of depressive symptoms during pregnancy for dietary iodine intake levels ≥400 µg/day relative to the reference level of 160-220µg/day. The corresponding OR (95% CI) were 1.29 (0.72, 2.30) and 1.20 (0.64, 2.25) respectively (Supplementary Table 1).

**Supplementary Table S2.** Prenatal iodine intake and maternal postpartum mental health symptoms scores

	Postpartum anhedonia symptoms		Postpartum Global EPDS score	
	Odds Ratio (95% CI)		Odds Ratio (95% CI)	
	Crude	Adjusted	Crude	Adjusted
<b>Dietary iodine</b>	n=573	n=544	n=573	n=544
<100µg/day	1.80 (0.99, 3.25)	1.70 (0.91, 3.18)	0.93 (0.47, 1.84)	0.98 (0.47, 2.05)
100-<160µg/day	1.08 (0.62, 1.89)	1.04 (0.58, 1.87)	1.04 (0.56, 1.92)	1.04 (0.53, 2.03)
160-220µg/day	Ref.	Ref.	Ref.	Ref.
>220-<400 µg/day	0.99 (0.53, 1.85)	0.99 (0.52, 1.87)	0.76 (0.37, 1.54)	0.73 (0.34, 1.54)
≥400 µg/day	1.23 (0.63, 2.39)	1.14 (0.57, 2.29)	1.12 (0.54, 2.34)	0.93 (0.42, 2.06)
<b>Dietary and supplemental iodine</b>				
<100µg/day	1.79 (0.96, 3.32)	1.87 (0.97, 3.58)	0.92 (0.44, 1.93)	1.20 (0.54, 2.67)
100-<160µg/day	1.21 (0.68, 2.15)	1.22 (0.66, 2.24)	1.38 (0.72, 2.63)	1.58 (0.78, 3.22)
160-220µg/day	Ref.	Ref.	Ref.	Ref.
>220-<400 µg/day	0.78 (0.43, 1.42)	0.82 (0.44, 1.54)	0.78 (0.39, 1.55)	0.86 (0.41, 1.81)
≥400 µg/day	1.09 (0.57, 2.06)	1.07 (0.54, 2.10)	1.17 (0.57, 2.40)	1.09 (0.49, 2.40)

Models were adjusted for maternal age at birth, child sex, maternal race/ethnicity, education, pre-pregnancy depression, parity, previous treatment for a thyroid disease. Anhedonia was based on items 1 and 2 of the 10-items EPDS (Edinburg depression scale) and those with score of ≥1 were categorized with anhedonia symptoms and 0 with no anhedonia symptoms. Global depressive symptoms was based on score ≥10 on the 10-item EPDS depression scale. Reference for iodine intake was based on the IOM, EAR (160 µg/day) and RDA (220 µg/day) for pregnant women in the US.

In the postpartum period, high (≥400 µg/day) and low (<100µg/day) levels of dietary iodine intake were associated with greater unadjusted and adjusted odds of postpartum anhedonia. Relative to the reference dietary iodine intake of 160-220µg/day, the corresponding OR (95% CI) were respectively 1.80 (0.99, 3.25) and 1.70 (0.91, 3.18) for dietary iodine intake <100µg/day and 1.23 (0.63, 2.39) and 1.14 (0.57, 2.29) for dietary iodine intake ≥400 µg/day (Supplementary Table 2).

**Supplementary Table S3.** Prenatal iodine intake and maternal pregnancy and 6-months postpartum global depression score

	Pregnancy Global EPDS score		Postpartum Global EPDS score	
	Odds Ratio (95% CI)		Odds Ratio (95% CI)	
	Crude	Adjusted	Crude	Adjusted
<b>Dietary iodine</b>				
<100µg/day	1.02 (0.51, 2.03)	0.93 (0.46, 1.90)	0.75 (0.34, 1.68)	0.75 (0.33, 1.72)
100-<160µg/day	1.26 (0.67, 2.36)	1.21 (0.63, 2.31)	1.20 (0.60, 2.40)	1.22 (0.60, 2.50)
160-220µg/day	Ref.	Ref.	Ref.	Ref.
>220-<400 µg/day	1.17 (0.60, 2.29)	1.09 (0.54, 2.17)	0.83 (0.38, 1.81)	0.78 (0.35, 1.74)
≥400 µg/day	1.13 (0.52, 2.43)	0.89 (0.40, 1.96)	1.31 (0.58, 2.96)	1.10 (0.47, 2.57)
<b>Dietary and supplemental iodine</b>				
<100µg/day	1.35 (0.65, 2.77)	1.31 (0.63, 2.74)	0.70 (0.29, 1.68)	0.71 (0.29, 1.74)
100-<160µg/day	1.46 (0.74, 2.85)	1.46 (0.73, 2.89)	1.42 (0.69, 2.91)	1.47 (0.70, 3.09)
160-220µg/day	Ref.	Ref.	Ref.	Ref.
>220-<400 µg/day	1.16 (0.59, 2.30)	1.09 (0.54, 2.19)	0.89 (0.42, 1.91)	0.84 (0.39, 1.83)
≥400 µg/day	1.36 (0.64, 2.86)	1.11 (0.51, 2.39)	1.31 (0.59, 2.91)	1.07 (0.46, 2.45)

Models were adjusted for maternal age at birth, child sex, maternal race/ethnicity, education, pre-pregnancy depression, parity, previous treatment for a thyroid disease. Depression symptoms was based on score ≥13 on the 10-item EPDS (Edinburg depression scale). Reference for iodine intake was based on the IOM, EAR (160 µg/day) and RDA (220 µg/day) for pregnant women in the US.

**Supplementary Table S4.** Prenatal iodine intake and maternal pregnancy and 6-months postpartum depressive subscale scores

	Pregnancy depressive symptoms subscale score		Postpartum depressive symptoms subscale score	
	Odds Ratio (95% CI)		Odds Ratio (95% CI)	
	Crude	Adjusted	Crude	Adjusted
<b>Dietary iodine</b>				
<100µg/day	0.73 (0.46, 1.15)	0.73 (0.46, 1.17)	0.94 (0.59, 1.50)	0.94 (0.56, 1.52)
100-<160µg/day	0.86 (0.56, 1.32)	0.84 (0.54, 1.30)	0.93 (0.60, 1.44)	0.91 (0.59, 1.42)
160-220µg/day	Ref.	Ref.	Ref.	Ref.
>220-<400 µg/day	0.80 (0.50, 1.26)	0.77 (0.48, 1.24)	1.00 (0.63, 1.58)	0.99 (0.61, 1.58)
≥400 µg/day	0.83 (0.49, 1.40)	0.76 (0.44, 1.30)	0.80 (0.48, 1.36)	0.72 (0.42, 1.23)
<b>Dietary and supplemental iodine</b>				
<100µg/day	0.75 (0.47, 1.22)	0.76 (0.47, 1.24)	0.98 (0.60, 1.60)	0.92 (0.54, 1.58)
100-<160µg/day	0.91 (0.58, 1.43)	0.89 (0.56, 1.40)	0.89 (0.57, 1.41)	0.85 (0.53, 1.36)
160-220µg/day	Ref.	Ref.	Ref.	Ref.
>220-<400 µg/day	0.82 (0.53, 1.28)	0.79 (0.50, 1.24)	0.95 (0.61, 1.49)	0.96 (0.59, 1.56)
≥400 µg/day	0.94 (0.57, 1.56)	0.85 (0.51, 1.42)	0.80 (0.48, 1.32)	0.89 (0.38, 2.10)

Models were adjusted for maternal age at birth, child sex, maternal race/ethnicity, education, pre-pregnancy depression, parity, previous treatment for a thyroid disease. Depression symptoms was based on median split of the total score at ≥4 vs. <4 on items 3-9 of the 10-item EPDS (Edinburg depression scale). Reference for iodine intake was based on the IOM, EAR (160 µg/day) and RDA (220 µg/day) for pregnant women in the US.

**Supplementary Table S5.** Covariate balance between those participants included and excluded from current analyses

Overall	Excluded	Included	
	Percent	Percent	p-value
Maternal factors			
Age at birth, years, mean (SD)*	29.8 (5.9)	29.9 (5.9)	
Age at birth, years			0.1
18-<25	25	23	
25-<35	55	56	
≥35	19	21	
missing	0.52	0	
Race/ethnicity			<0.0001
NHW	4.8	17	
Black/HB	32	42	
NBH	23	34	
Other	1.7	4.6	
missing	39	2.3	
Education			<0.0001
High school or less	27	38	
More than high school	33	59	
missing	40	2.5	
Depression pre-pregnancy			<0.0001
Yes	17	25	
No	44	73	
missing	38	1.9	
Pregnancy depressive symptoms (Global EPDS)			<0.0001
<10	34	65	
≥10	15	25	
missing	51	10	
Post-partum depressive symptoms (Global EPDS)			<0.0001
<10	25	54	
≥10	736	14	
missing	67	32	
Pregnancy anhedonia symptoms			<0.0001
0	33	66	
1-6	16	24	
missing	51	10	
Post-partum anhedonia symptoms			<0.0001
0	22	47	
1-6	11	22	
missing	67	32	
Pregnancy depressive subscale symptoms			<0.0001
<4	22	40	
≥4	27	50	
missing	51	10	
Post-partum depressive subscale symptoms			<0.0001
<4	16	35	
≥4	17	33	

missing	67	32	
Thyroid disease <sup>s</sup>			<0.0001
Yes	4.5	6.2	
No	62	92	
missing	33	2	
Child sex			0.005
Female	45	50	
Male	53	49	
missing	1.6	0.3	
<sup>s</sup> Treatment for a thyroid disease was based on self-report and medical record extraction			
<sup>†</sup> p-value for chi square test			