**Table S1 – related to Table 3.** Fatty acid composition in stomach contents consumed in milk as a percentage of total of total fatty acids on postnatal day 6 (n = 6-7 per group, with n = 1 representing data from 1 pooled litter). Data are analysed with a two-way ANOVA reporting differences between Pup (Standard and Reduced litters) and Dam (Normal and Altered milk quality/composition) groups, with a Tukey's post-hoc used to identify where interactions lie. Data presented as the mean  $\pm$  SEM, where ns is not significant. Significant differences between Standard and Reduced litter pups are indicated by an asterisk (\*P < 0.05) and differences between sham operated (Control; Normal milk quality/composition) and uteroplacental insufficiency surgery (Restricted; Altered milk quality/composition) dams are indicated with a double dagger ( $\ddagger p$  < 0.05).

Pup	Standard	Standard	Reduced	Reduced	Two-way ANOVA		
-on-	-on-	-on-	-on-	-on-	D	D	Totamatian
Dam	Normal	Altered	Normal	Altered	Pup	Dam	Interaction
Saturated fatty							
acids (%)							
Medium chain (%)							
8:0 Caprylic	1.15±0.21	1.05±0.19	2.08±0.23	1.44±0.26	p = 0.008	ns	ns
10:0 Capric	8.61±0.48	8.44±1.43	9.90±0.34	9.65±0.54	ns	ns	ns
12:0 Lauric	10.07±0.34	8.74±1.50	9.16±0.32	9.76±0.30	ns	ns	ns
Long chain (%)							
14:0 Myristic	12.44±0.44	11.03±0.89	9.01±0.65	10.28±0.70	p = 0.008	ns	ns
15:0 Pentadecanoic	$0.17 \pm 0.01$	0.24±0.01‡	0.20±0.01*	0.21±0.01	ns	p = 0.001	p = 0.004
16:0 Palmitic	24.34±0.76	21.06±1.24	18.90±0.75*	20.70±1.22	p = 0.012	ns	p = 0.025
17:0 Margaric	$0.18 \pm 0.01$	$0.17 \pm 0.03$	$0.17 \pm 0.01$	$0.15\pm0.03$	ns	ns	ns
18:0 Stearic	$3.14 \pm 0.24$	2.57±0.04‡	2.57±0.07*	2.76±0.08	ns	ns	p = 0.007
20:0 Arachidic	$0.10\pm0.02$	$0.09\pm0.02$	$0.08\pm0.02$	$0.10\pm0.02$	ns	ns	ns
Monounsaturated fatty acids (%)							
12:1 Lauroleic	$0.00\pm0.00$	$0.28\pm0.11$	0.57±0.24	0.57±0.21	p = 0.016	ns	ns
16:1 Palmitoleic	$0.93 \pm 0.07$	$0.97 \pm 0.08$	1.22±0.08	1.00±0.09	ns	ns	ns
17:1 Heptadecenoic	$0.05\pm0.03$	$0.10\pm0.02$	$0.08\pm0.02$	$0.08\pm0.03$	ns	ns	ns
18:1n-9 Oleic	20.87±0.82	20.58±1.24	23.29±0.88	21.69±0.66	ns	ns	ns
20:1n-9 Gondoic	0.51±0.03	$0.50\pm0.04$	$0.59\pm0.03$	$0.54 \pm 0.02$	ns	ns	ns
LC-PUFA (n-6) (%)							
18:3n-6 γ-linolenic	$0.20\pm0.01$	0.25±0.01‡	0.26±0.01*	$0.23\pm0.02$	ns	ns	p = 0.006
20:2 Eciosatrienoic	$0.53\pm0.02$	$0.58\pm0.03$	$0.63\pm0.03$	$0.60\pm0.03$	p = 0.051	ns	ns
20:3n-6 Dihomo-γ-	0.35±0.02	0.40±0.02	0.40±0.01	0.39±0.01	ns	ns	ns
linolenic	0.33±0.02	U.4UIU.UZ	U.4U±U.U1	0.39±0.01	115	115	115
22:4n-6	0.49±0.04	0.69±0.10	0.82±0.07*	0.70±0.06	p = 0.029	ns	p = 0.046
Docosatetraenoic	0.49±0.04	0.09±0.10	0.82±0.07	0.70±0.00	p = 0.029	115	p = 0.040
LC-PUFA (n-3) (%)							
22:5n-3	0.36±0.03	0.38±0.04	0.50±0.04	0.43±0.03	p = 0.016	ns	ns
Docosapentaenoic	0.50±0.05	0.0010.04	0.0010.04	0.4010.00	ρ – 0.010	115	113