

and prenatal steroids ( $p < 0.05$ ). At discharge 64/108 (59%) infants were fully or partly fed with MBM. Mothers of exclusively formula fed infants were younger, less educated, had lower incomes, history of pre-pregnancy nicotine use and prenatal steroids ( $p < 0.05$ ).

**Conclusions** Special efforts should be made in young mothers of low socioeconomic status and foreign origin as well as mothers receiving prenatal steroids to help them sustain adequate breast milk production for their EPIs.

### 343 A RANDOMISED TRIAL OF TWO TECHNIQUES OF BOTTLE FEEDING FOR PRETERM INFANTS

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**Background and Aims** Preterm infants will begin the transition from tube to suck feeds at ~34 weeks' corrected age. Our aim was to compare physiological stability in two positions for bottle feeding preterm infants, the "cradle hold" versus a "side-lying" position.

**Methods** Randomised crossover trial of infants < 34 weeks' gestation at birth,  $\geq 34$  weeks' corrected gestation at study, receiving  $\geq 2$  two suckling feeds/day. Feeds were studied on successive days. A pulse oximeter (PO) measured oxygen saturation ( $SpO_2$ ) and heart rate (HR), before, during and for 30 minutes after feeds. Continuous data were compared with paired t-tests, proportions compared with  $X^2$ .

**Results** 25 study infants were, mean (SD) 29(3) weeks gestation and 1158(479)g at birth and mean (SD) 37(2.4) wks corrected age and 2740 (589)g at study.

Abstract 343 Table 1

	Cradle	Side-lying	p value
$SpO_2$ mean(SD)	94(6)	95(6)	0.55
HR mean(SD)	163(14)	156(15)	0.09
$SpO_2 < 80\%$ n(%)	17(68%)	14(56%)	0.39
HR <100bpm n(%)	5(20%)	10(40%)	0.12
Proportion of feed consumed mean (SD)	82(25)	87(20)	0.08

Eight study infants were receiving oxygen or respiratory support. In these 8 infants 5/8 (62%) versus 7/8 (87%) in side and cradle feeding positions experienced a  $SpO_2 < 80\%$  ( $p = 0.25$ ) during study feeds.

**Conclusions** Little difference in physiological stability was seen between the two bottle feeding positions. Both methods may be appropriate for the transition from tube to bottle feeding in preterm infants.

### 344 ADIPOCYTOKINE LEVELS IN CORD BLOOD OF PRETERM AND TERM NEWBORN INFANTS

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**Background** Few studies have presented data on adiponectin and leptin levels comparing small and appropriate for gestational age, and very low birth weight preterm and term newborns.

**Aim** To compare levels of adiponectin and leptin in cord blood of full term and very low birth weight preterm infants, and determine its relation with birth weight and being small for gestational age.

**Methods** Cross sectional study of preterm with gestational age (GA)  $\leq 32$  weeks and birth weight  $\leq 1500$  grams (VLBW), and term newborns born at tertiary hospital between January 2010 and May

2011. Exclusion criteria were presence of major congenital malformation, metabolism inborn errors, chromosomal anomalies. Adiponectin and leptin cord blood levels were determined by ELISA kits (R&D Systems).

**Results** Included 127 newborns: 55 VLBW preterm and 72 term newborns. There were no statistical differences regarding maternal gestational diabetes, urinary tract infection, age and BMI. Adiponectin levels were significantly higher in term than in preterm newborns:  $2.4 \pm 0.22$  pg/ml versus  $1.57 \pm 0.74$  pg/ml ( $p < 0.001$ ), respectively; leptin levels were similar in both groups:  $1.25 \pm 0.90$  pg/ml and  $1.38 \pm 0.99$  pg/ml ( $p = 0.481$ ), respectively. Despite being adequate or small for gestational age, VLBW preterm newborns showed lower levels of adiponectin than term newborns ( $p < 0.001$ ), and there were no statistically significant differences for leptin levels. In the linear regression, prematurity was the only independent variable associated to low levels of adiponectin ( $p < 0.001$ ).

**Conclusion** Prematurity is the main determinant factor for lower adiponectin levels in umbilical cord blood of newborns.

### 345 ANALYSIS OF ANTIOXIDATIVE STATUS OF HUMAN MILK AND ITS VARIATIONS AT DAY AND NIGHT TIME

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**Introduction** Human milk (HM) contains antioxidant enzymes such as superoxide dismutase (SOD), glutathione peroxidase (GSH-Px) and catalase. Melatonin (MT) shows antioxidative properties both directly by stimulating the activities of antioxidant enzymes and indirectly by scavenging free radicals. The aim of this study was to evaluate the effect of MT status on the level of SOD, GSH-Px 3 and the total antioxidant capacity (TAC) of HM.

**Material and Methods** 114 samples of HM were collected from 22 healthy women during daytime (DT; 10a.m.-9.59p.m.) and nighttime (NT; 10p.m.-9.59a.m.). MT, SOD, GSH-Px3 levels and TAC were assayed and compared between DT-HM and NT-HM. Moreover, the Pearson's correlation coefficient was calculated between MT and SOD, GSH-Px3 and TAC.

**Results** MT showed a circadian rhythm with high levels at NT and low levels at DT (mean  $\pm$  SEM;  $9.2 \pm 1.2$  vs.  $2.0 \pm 0.3$  pg/ml, respectively,  $p < 0.0001$ ), while SOD, GSH-Px3 and TAC had no circadian changes in HM ( $p > 0.05$ ). There was no correlation between MT levels and SOD, GSH-Px3 levels and TAC.

**Conclusion** The MT status influence neither SOD and GSH-Px3 levels nor TAC of HM. It should be pointed that our results represent only the effect of MT on the extracellular component of the antioxidant system and it does not exclude the possibility that high MT concentrations in HM may induce the intracellular and mitochondrial antioxidant enzyme system in the gastrointestinal tract.

### 346 EFFECTS OF BOLUS AND CONTINUOUS ENTERAL FEEDING ON SPLANCHNIC AND CEREBRAL TISSUE OXYGENATION EVALUATED BY NEAR INFRARED SPECTROSCOPY

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**Background and Aims** Bolus and continuous tube feeding represent the most frequently used enteral feeding techniques in preterm infants, but the best strategy is not yet established. Near-Infrared-Spectroscopy (NIRS) provides a noninvasive monitoring of splanchnic