36 weeks GA increased significantly in infants 1,000–1,500 g and head circumference at 36 weeks GA increased significantly in all infants. No significant differences were seen in the rates of NEC, BPD, ROP, IVH and PVL.

Conclusions Modified nutritional protocol based on supplying the early aggressive macronutrients and higher calorie, can significantly reduce the incidence of EUGR in infants ≤1,500 g without any complications. We need further investigation to improve growth in infants <1,000 g.

PO-0588 NEONATAL OUTCOMES OF VERY LOW BIRTH WEIGHT INFANTS WHO RECEIVED ENTERAL NUTRITION WITH AND WITHOUT OLIVE OIL SUPPORT: RANDOMISED CONTROLLED PILOT STUDY

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Background and aims Very low birth weight (VLBW) infants have a greater risk for the oxidative stress related diseases (OSRDs) like retinopathy of prematurity, bronchopulmonary dysplasia, periventricular leukomalacia and necrotizing enterocolitis. Naturel antioxidant activity of phenols, flavonoid and tocopherols in extra virgin olive oil (EVOO) may be preventive for the OSRDs. The purpose of conducting a randomised controlled pilot study is to compare the weight gaining, length of hospitalisation and the OSRDs of VLBW infants who received early enteral nurtition with and without EVOO support.

Methods VLBW newborns were divided into two groups in this pilot study. Group 1 received enteral nutrition and EVOO, Group 2 received only enteral nutrition. Nutritional analysis was undertaken for EVOO that was added as 0.5 ml/day in 100 ml enteral nutrition. Total parenteral nutrition (TPN) and minimal enteral nutrition was initiated both of two groups.

Results A total of 26 VLBW infants were divided into two groups (Group 1)(n = 13) and (Group 2) (n = 13) and assessed the birth weight: Group 1= 1,329 ± 35 g, Group 2 = 1,276 ± 32 g. gestational age: Group 1= 31 ± 2.79, Group 2 =29 ± 2 weeks. There was no significant difference between two groups for weight gaining, length of hospitalisation and the OSRDs.

Conclusions EVOO is very important natural antioxidant and anti-inflammatory nutrients for preterm infants particularly VLBW. A larger randomised controlled trials are needed to show the antioxidant and anti-inflammatory effects of olive oil for prevention of OSRDs in this high risk group.

PO-0589 A MIXED BAG – HAS THE NATIONAL CONFIDENTIAL ENQUIRY INTO PATIENT OUTCOME AND DEATH (NCEPOD-REPORT, UK 2010) MADE A DIFFERENCE TO THE NUTRITION OF PRETERM INFANTS?

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Background Early parenteral nutrition (PN) improves growth in preterm neonates. Good practice in PN-care was identified in only 24% of the units in the NCEPOD-Report.

Abstract PO-0589 Table 1

		BWz	DWz	TPN
	23–30GA	-0.59(-1.02/0.07)	-2.18(-2.57/-1.59)	12(7–18)
2010	31–36GA	-0.28(-1.11/0.36)	-1.46(-1.95/-0.95)	0(0–1)
	23–30GA	-0.32(-1.17/0.34)	-1.4(-2.03/-1.0)	11(7–13)
2011	31–36GA	-0.4(-1.33/0.11)	-1.92(-2.47/-1.27)	0(0–6)
	23–30GA	-0.19(-0.9/-0.06)	-2.08(-2.69/-1.28)	8(1–10)
2012	31–36GA	-0.92(-1.1/0.07)	-2.19(-2.63/-1.44)	10(3–11)
	23–30GA	-0.38(-1.63/0.07)	-2.04(-2.7/-1.73)	6(0–13)
2013	31–36GA	-0.75(-1.52/-0.27)	-1.98(-2.69/-1.36)	8(4–10)
Term		-1.53(-2.24/-0.34)	-1.63(-2.7/-0.91)	

Aim To compare the growth of preterm infants since the NCEPOD-Report in relation to PN-use.

Methods Retrospective comparison of preterm infants cared for in a tertiary neonatal unit until 36 weeks gestational age (GA) between 2010–2013. Newborns were grouped by gestation (23–30GA/31–36GA) and birth-year. Outcomes were z-scores for birthweight (BWz), discharge-weight (DWz) and length of PN in days (loPN). Outcomes were compared between years, within years and between GA-groups including >36GA-control-group. Data-presentation/-analysis: Median (interquartile-range); Mann-Whitney-U-Test/Kruskal-Wallis-Test ($p < 0.05$).

Results 175 newborns recruited. No significant difference for BWz and DWz between years and for BWz and DWz between GA-groups within a year except for DWz 2010($p = 0.02$). No significant difference for the same GA-group between years except for DWz 23–30GA($p = 0.04$). No significant difference for loPN between years and between GA-groups within a year except for 2010($p < 0.0001$) and 2011($p < 0.0001$). No significant difference for the same GA-group between years except for 31–36GA($p < 0.0001$).

Conclusion Growth in preterm infants assessed by difference in z-scores appears to have improved since 2010. This may be partly due to increased PN-use which although not significant shows a notable increase since the NCEPOD-Report.

PO-0590 SUBSTANCE ABUSE DETERMINATION IN ALTERNATIVE MATRICES OF BREASTMILK DONORS

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Background and aims In human milk banks, the only available information regarding toxicological safety, is provided by donors in the screening questionnaire. A good agreement between donors' self-report and milk analysis for nicotine and illegal drug use (excluding caffeine) was reported. Determination of these substances in urine and hair samples may provide additional information.

Our main objetive was to determine drug abuse substances, nicotine and caffeine, in donors' breastmilk, urine and hair and compare the results to donors' answers in the screening questionnaire.

Methods 36 samples of breastmilk, urine and hair from 36 milk donors were collected. All donors completed a lifestyle questionnaire. A validated, reversed-phase liquid chromatography tandem

mass spectrometry test was used to determine the concentration of illegal drugs, nicotine and caffeine.
Results No donors reported being a drug user or an active smoker. 33% of donors admitted consuming caffeine.

No illegal drugs were found. Caffeine was found in 50% of breastmilk (272,8 ± 560,5 ng/ml), in 78% of urine (455,27 ± 510,5 ng/ml) and 78% of hair samples (1,76 ± 1,58 ng/mg). Caffeine was found in 25% of donors who denied consuming caffeine (361 ± 528 ng/ml).

Nicotine was found in 33% of hair samples and cotinine in 50% of urine and 33% of hair samples. Both substance levels were under the threshold of significant ambiental exposition.
Conclusions We found a good agreement between self-report and breastmilk, urine and hair analysis for illegal drug and tobacco use. We found a moderate agreement for caffeine, although breastmilk concentrations were not of concern for newborns.

PO-0591 SUPPORTING EARLY BREASTMILK EXPRESSION ON THE NEONATAL UNIT – ARE WE DOING ENOUGH?

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Background and aims When breastfeeding is delayed, prompt breast-milk expression facilitates establishment and maintenance of lactation. On neonatal units, the recommended UNICEF target of all mothers achieving early milk expression within 6 h of birth is often not achieved. For critically ill infants, breast milk is particularly beneficial due to its nutritional and immunological benefits. Clinical practices that positively affect timely initiation are poorly described. Our aim was to investigate these practices.
Methods A cross-sectional survey was performed on a tertiary neonatal unit to assess lactation and breastfeeding support provided to mothers of term and preterm infants. Anonymous questionnaires were distributed, between days 3–7 postpartum.
Results Of 79 participants, 53% were advised about breast-milk antenatally. Overall, 90% of mothers were helped to hand-express but only 11% within 6 h of birth. Breastfeeding nurses and midwives provided most advice but neonatal nurses were involved in only 10% of episodes. The likelihood of early expression was lower for mothers of preterm infants and in mothers who had not done kangaroo care but not significantly. Maternal perception of support was positive in 90% of cases.
Conclusion The survey demonstrated a large discrepancy between recommended levels of support and actual practice. Questions about the feasibility of conforming to Unicef recommendations in neonatal units remain. Further analysis of the factors that impeded early expression is needed. It may well be that in mothers whose infants require neonatal care, there are entirely valid reasons for some delay in initiation of expression.

PO-0592 DISTINGUISHING CONGENITAL COMBINED PITUITARY HORMONE DEFICIENCY FROM BILIARY ATRESIA AS A CAUSE OF CHOLESTASIS IN INFANTS

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Background and aims Neonatal cholestasis is caused by either biliary atresia or intrahepatic cholestasis. Congenital combined pituitary hormone deficiency (CPHD) is a rare disease and a recognised cause of intrahepatic cholestasis. It is important to differentiate cholestasis due to this entity from cholestasis due to biliary atresia, since both diseases can cause jaundice at about 1 month of age. However, doing so in a timely fashion remains a diagnostic dilemma.

This retrospective study was performed to clarify differences between cholestasis due to congenital CPHD and cholestasis due to biliary atresia.
Methods From 2004 to 2010, 4 infants (2 boys and 2 girls) with cholestasis due to congenital CPHD were admitted to Nagoya City University Hospital. Head magnetic resonance imaging of the 4 infants revealed an invisible pituitary stalk; 3 of these 4 infants had an ectopic posterior pituitary. Liver biopsy was performed in 3 of the 4 infants, and histological findings included giant cell hepatitis. Findings from these 4 infants were then compared with those from55 infants treated in our hospital for cholestasis due to biliary atresia.
Results The results showed a significant difference in mean gamma-glutamyl transpeptidase levels between the two groups of infants (115.0 IU/l vs. 553.0 IU/l, respectively).
Conclusions The gamma-glutamyl transpeptidase level was found to be useful for distinguishing congenital CPHD from biliary atresia as the cause of cholestasis. The diagnosis of hypopituitarism should always be considered in infants with unexplained neonatal hepatitis.

PO-0593 HOW DO ANTIBIOTICS AFFECT THE DEVELOPMENT OF THE FAECAL MICROBIOTA OF THE NEONATE?

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Objective Evaluating the effects that the antibiotic, administered in the first two weeks of life, over the newborn's composition of the intestinal microbiota and its influence on other ages of the infant.
Design Study of the prospective cohorts carried outbetween January 2013–February 2014 in the Neonatal Unit of a third level-hospital. 3 stool samples are collected: M1 (admission), M2 (discharge), M3 (1st month of life). It isanalysed the influence of the antibiotic parenteral treatment in the first 15days of life on the intestinal colonisation of the 4 bacterial groups: Bacteroids, Clostridium, Lactobacillus and Escherichia Coli, using molecular biology techniques (qPCR).
Results 27 neonates have been enrolled in the studio:15 babies have received parenteral antibiotic and 12 babies have not. The content of Lactobacillus when discharge is lower in those who have received antibiotic treatment ($9,28 \times 10^2$CFU/g vs $7,21 \times 10^3$ CFU/g; p 0,005). This difference is the same in a month ($1,79 \times 10^2$ CFU/g vs $4,77 \times 10^5$ CFU/g; p 0,16). The influence of the antibiotic treatment over the colonisation of the rest of groups studied has not been demonstrated.
Conclusions The use of antibiotic in the neonatal period has shown tohave an influence on the neonate's intestinal colonisation process, producing a decrease in the content of lactobacillus (bacterial group related to beneficial effects for the guest). This research is considered to be the basis of future strategies in order to care these neonates (specially based on probiotics).