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-0589** 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. Natural 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 nutrition 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.

**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.

**Abstract PO-0589 Table 1**

<table>
<thead>
<tr>
<th></th>
<th>BWz</th>
<th>DWz</th>
<th>TPN</th>
</tr>
</thead>
<tbody>
<tr>
<td>23–30GA</td>
<td>-0.59(1.02)/0.07</td>
<td>-2.18(2.57)/1.59</td>
<td>12(7–18)</td>
</tr>
<tr>
<td>2010</td>
<td>31–36GA</td>
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<td>-1.46(1.95)/0.95</td>
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<td>23–30GA</td>
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<td>-1.4(2.03)/1.0</td>
<td>11(7–13)</td>
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<tr>
<td>2011</td>
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<td>2012</td>
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<td>23–30GA</td>
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<td>-2.04(2.7)/1.73</td>
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<td>2013</td>
<td>31–36GA</td>
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<td>-1.98(2.69)/1.36</td>
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<tr>
<td>Term</td>
<td>-1.53(2.24)/0.34</td>
<td>-1.63(2.7)/0.91</td>
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**Aims** 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 < 0.001). 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 objective 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 ± 56,0 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-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 out between 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 is analysed the influence of the antibiotic parenteral treatment in the first 15 days 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 x 10^1 CFU/g vs 7,21 x 10^1 CFU/g; p 0,005). This difference is the same in a month (1,79 x 10^2 CFU/g vs 4,77 x 10^2 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 to have 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 (especially based on probiotics).