Background and aims Global prevalence of obesity has doubled the last 30 years, with WHO estimating that 10% of men and 14% of women worldwide are obese. The corresponding health risk is associated with a significant health system cost, loss of health related quality of life, and economic costs such as reduced productivity. Obesity in adulthood is the result of several factors, including weight gain during infancy. The objective of this paper is to demonstrate the impact on infant weight gain and economic value of low protein nutritional formula compared with standard protein nutritional formula.

Methods A double blind, randomised, controlled trial of 252 healthy infants born of overweight or obese mothers estimated the impact of formula on weight gain up to 36 months. A discrete event simulation estimated the corresponding impact on adult BMI, the incidence of obesity-related diseases and consequent lifetime changes in health care resources use, health related quality of life (HRQoL), and productivity.

Results Low protein infant formula reduced weight gain at 36 months by 0.31 kg (from 16.04 kg with standard formula to 15.74 kg with low protein formula). The simulation estimates the corresponding changes in the following outcomes over infants' lifetimes: a BMI; incidence of diabetes, stroke, CHD; health care costs, HRQoL and productivity.

Conclusions The use of low protein formula for infants of overweight or obese mothers not only reduces infant weight gain, but also generates lifetime improvements in quality of life, health cost savings and improvements in productivity.

PO-0599 EFFECTS OF NON-NUTRITIVE SUCKING ON GASTROESOPHAGEAL REFLUX IN SYMPTOMATIC PRETERM INFANTS

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Background The therapeutic management of gastroesophageal reflux (GER) in preterm infants still represents a controversial issue among neonatologists. To date, different non-pharmacological strategies, such as body positioning, milk thickening or changes of feeding modalities, have been proposed. However, the effects of non-nutritive sucking (NNS) on GER features, detected by multiple intraluminal impedance (MII), have not yet been evaluated in preterm newborns symptomatic for GER.

Patients and methods Nineteen preterm newborns (GE $\leq$ 33 weeks) with GER symptoms underwent a 24-hours pH-MII monitoring. During this period, each infant received eight meals, four followed by NNS, applied by means of pacifier, and four not. Differences in GER features (number of episodes, acidity, duration and height reached) between NNS and non-NNS postprandial periods were evaluated by Wilcoxon signed-rank test.

Results No significant difference in GER features between NNS and non-NNS periods was found. However, postprandial periods without NNS resulted in a slight increase in the mean duration of acid GER episodes (NNS vs. NON-NNS, median values: 51.15 vs. 88.20 sec, p 0.159). Consequently, during NNS periods the time of esophageal acid exposure was reduced (NNS vs. NON-NNS, median values: 3.54 vs. 6.15%, p 0.171).

Conclusions According to our results, NNS administration during postprandial periods seems to have no significant effects on GER features in symptomatic preterm infants. However, during NNS periods we observed a slight, though not significant,

Abstract PO-0600 Table 1 Influencing factors in unsuccessful breastfeeding first day after delivery

Factors		Epidemiologic causes
Newborn causes	Macro nipple	
Prematurity	Cosmetic appearance of breast	Age
Low birth weight	Drugs	District
Oral problem (cleft and lips palate)	Maternal addiction	Newborn gender
		Sequence of newborn
Swallowing problem	Maternal stresses	Delivery type
Sleepiness	Cultural causes	
Unilateral breast suckling	Pacifier usage	
Short suckling	Dextrose water feeding	
Poor attachment to breast	No belief to colostrums feeding	
Maternal causes	Family dispute of parents	
Milk insufficiency	Family consults	
Inverted nipples	Medical causes	
Breast engorgement	Newborn hospitalisation	
Nipples fissure	Maternal hospitalisation	
Maternal vaginal bleeding	Educational causes	
Breast milk inadequacy thought of mother	Physiologic delivery training	
	Breastfeeding training in rooming in	
Episiotomy pain	Academic graduate level	
Caesareans section incision pain		

reduction in the duration of acid GER, which plays a relevant role in the development of GERD. Further larger evaluations are needed to eventually confirm these preliminary data.

PO-0600 ASSESSMENT OF UNSUCCESSFUL MATERNAL BREASTFEEDING FACTORS IN FIRST DAY AFTER DELIVERY

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Background and aims In this research we study the preventive factors in successful breastfeeding in first day after delivery.

Methods and materials This research type was observational descriptive case series. It takes from august 2013 to February 2014. Our target populations were 387 and contain every delivered mother with breastfeeding problems in first day after delivery. For every mother unsuccessful breastfeeding factors as table-1 determined and data analysed with SPSS type 20 software and assessed with pearson's correlation and linear regression.

Abstract PO-0600 Table 2 Unsuccessful maternal breastfeeding factors influencing correlation

		Standardised Coefficients		causes
confidence level	Sig.	(Beta)		
100%	.000	.400		Newborn causes
100%	.000	.426		Environment and Hospital causes
100%	.000	.744		Maternal causes
98.6%	.014	-.064		Cultural causes
94.6%	.054	.047		Educational causes
93%	.699	-.009		Epidemiologic causes

Results Table 2 shows the influence of unsuccessful breastfeeding factors in first day after delivery.

Conclusion Maternal causes have the most strength, and educational, hospital, and newborn causes have intermediate preventive relation as unsuccessful maternal breastfeeding factors. Cultural causes have the most strength indirect preventive influence on unsuccessful maternal breastfeeding, but epidemiologic causes have not significant relation with unsuccessful maternal breastfeeding.

PO-0601 **WITHDRAWN**

PO-0602 **WHAT DO PARENTS THINK ABOUT PROBIOTIC USE IN PRETERM INFANTS?**

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Background and aim Meta-analyses show that probiotics significantly reduce necrotizing enterocolitis (NEC) and/or mortality in high-risk preterm infants. Since January 2013, our centre has offered a routine combination probiotic (Infloran®) to preterm infants. We provide written parental information and give parents the opportunity to opt out. We wanted to evaluate parents' opinions on probiotic use in preterm infants.

Methods In December 2013 we conducted a postal survey of all 80 sets of parents of the 90 babies given probiotics in the period Jan–Nov 2013 who survived to discharge.

Results No parents have yet declined probiotics in our NICU. Responses were received from 53 parents. Of these, 74% considered it unnecessary to inform parents prior to starting probiotics; 90% had not worried that their baby was being given live bacteria; 88% were unconcerned about possible unknown risks of probiotics; 88% reported their anxieties in the NICU were eased by knowing their baby was receiving probiotic treatment. Almost all (96%) considered that parents of high-risk premature babies born at other units that do not yet offer probiotics should nevertheless still have the right to be informed of the evidence that probiotics reduce NEC and save lives; moreover 64% felt that, given the current evidence, those parents should not only have a right to be informed but should also be allowed the option of probiotics for their babies.

Conclusion Parents informed of the evidence and offered the option of probiotic prophylaxis for their babies appear to understand and appreciate the evidence and enthusiastically embrace probiotic usage.

PO-0603 **LACTOFERRIN AND NICU ENVIRONMENT AFFECT FAECAL BACTERIA OF PRETERM INFANTS**

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Background and aims The effects of lactoferrin [LF] on neonatal gut bacteria is unknown. We theorised LF has a greater impact on gut microbiota than the NICU environment.

Methods Ten very preterm infants received enteral recombinant human lactoferrin [rhLF], while 11 infants received placebo for the first 28 days of life. We collected a faecal sample on day 21. We sequenced amplicons made from the V1 – V3 region of bacterial 16 S rRNA in faeces. QIIME and mothur processed filtered reads to classify operational taxonomy units [OTUs] with >97% sequence similarity. Statistical analyses used SPSS.

Results Mean faecal OTUs per infant were higher in NICU1 (mean = 63,284) versus NICU2 (48,080, $p < 0.001$). Reasons for higher OTUs in NICU1 were less antibiotics versus NICU2 (mean = 4.7 vs. 9.5 d, $p < 0.002$); NICU1 used early enteral nutrition in NICU1, while infants in NICU2 received more parenteral nutrition ($p < 0.007$). *Veillonella* as a marker of gut microbiome maturity was higher in NICU1 (mean OTUs = 13,146 versus NICU2 = 1909, $p < 0.04$). A placebo-treated infant with necrotizing enterocolitis had 58,071 OTUs of *Enterobacter hormaechei* in the faeces. Infants given placebo had more *E. hormaechei* (mean OTUs = 23,661) versus rhLF-treated babies (mean = 2330, $p < 0.03$). Two neonatal pathogens, *S. aureus* and *Pseudomonas*, were lower in the faeces of rhLF-treated infants ($p < 0.03$ and $p < 0.01$, respectively).

Conclusions rhLF modulates gut bacteria of preterm infants. The NICU habitat also significantly affects the intestinal microbiome. Research must show if bovine LF also reduces faecal pathogens in very preterm infants.

PO-0604 **EARLY PROTEIN AND CALORIE PROVISION ON A TERTIARY NICU**

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Background and aims Meeting the nutritional requirements recommended by ESPGHAN remains challenging during early NICU care.

We aimed to evaluate local practice and compare provision to recommendations.

Methods In this retrospective study, nutritional data were collected from birth on all neonates admitted to a tertiary referral centre from September to December 2013. Data were obtained from the national database and medical notes.

We assessed enteral and parenteral intake and calculated protein (Grams/Kg/day) and Calories (Kcal/kg/day). Enteral feed data collected included volumes of breast, donor and formula milks. Protein and calorie intake were calculated based on known milk composition values.

Abstract PO-0604 Figure 1