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Purpose Even mild iodine deficiency may negatively affect cognitive performance, especially at a young age. Our aim was to investigate iodine status in very young children and to assess the importance of iodized salt in processed foods as an example for a country with voluntary salt iodization.

Methods 24-h urinary iodine excretion (UIE) as a marker of iodine intake was measured in 378 repeatedly collected 24-h urine samples (2003–2010) of 221 3–6 year old participants of the DONALD Study. Parallel 3-d weighed dietary records and measurements of urinary sodium excretion provided data on the daily consumption of the most important iodine providers in the children's diet (iodized salt, milk, fish, meat and eggs). Time trends of UIE (2003–2010) and contributions of the different food groups were analysed by using linear mixed-effects regression models.

Results Median UIE of 71 µg/d in boys and 65 µg/d in girls, corresponding to an iodine intake of 82 and 75 µg/d, respectively (assumption: 15% non renal iodine losses) was below the WHO intake recommendations of 90 µg/d. Milk, salt and egg intake were significant predictors of UIE; milk and salt together accounted for >80% of iodine supply. Between 2003 and 2010, UIE decreased significantly by approximately 1 µg/year. The contribution of salt intake to UIE decreased from 03–06 to 07–10.

Conclusion In countries where salt is a major iodine provider, already modest decreases in the iodized proportion of salt used in processed foods may relevantly impair iodine status even in pre-school children.

1047 VITAMIN B12 LEVELS OF 0–24 YEARS-OLD PEOPLE IN KONYA, TURKEY

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Background It was reported that levels of vitamin B12 show racial differences. Therefore we wanted to determine normal serum levels of vitamin B12 in Konya region, Turkey.

Methods Totally 1109 samples of which 54 were cord bloods and the rest were 1055 healthy 0–24 years-old subjects who admitted to primary health centers. Vitamin B12 measurement was done at the biochemistry laboratory of Selcuk University Meram Medical Faculty with the original Beckman kits (Beckman Coulter, California-USA) by chemiluminescence method.

Results The reference levels obtained for vitamin B12 at P_{2.5}–P_{97.5} range were; 127–606 pg/ml for girls and 127–576 pg/ml for boys. Reference level for the total study group was 127–590 pg/ml.

Conclusion The values reported in other studies are higher than our results. Vitamin B12 levels vary among countries. Using reference ranges of other populations may lead to inaccurate results. Therefore normal levels which will be valid for that population should be obtained.

1048 INFANTICIDE, 'AFTER-BIRTH ABORTION' AND RECENT PHILOSOPHICAL CONTROVERSIES CONCERNING THE VALUE OF NEWBORN LIFE

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The *Journal of Medical Ethics* recently published an article by philosophers Giubilini and Minerva (1) arguing that the intentional killing of newborn infants was justified if the continued existence of the

child represented 'an unbearable burden for the psychological health of the woman or for her already existing children', as well as if there were excessive economic burdens or disability. They argued that both fetuses and newborns do not have the same moral status as actual persons, since they lack self-awareness. Hence the destruction of a newborn life is morally justified if it is in the best interests of existing people. Although the position of Giubilini and Minerva is supported by several other prominent philosophers, including Michael Tooley and Peter Singer, I will argue that it is fatally flawed.

- It is incoherent to argue that conscious self-awareness is necessary criterion for life to have intrinsic value,
- The argument strikes at the heart of the central belief enshrined in the Universal Declaration of Human Rights, that all human beings possess inherent moral worth solely in virtue of their membership of the human species, and irrespective of their functional abilities,
- Since self-awareness as an agent probably does not start to appear before 18 months of age, and may not be secure until the fourth year of life, the argument imperils not just newborns but a large proportion of the paediatric population!

Reference Giubilini, A, Minerva F, *J Med Ethics* epub 3 Feb 2012.

1049 BURDEN OF CHRONIC EXPOSURE TO DIFFICULT ETHICAL DECISIONS ON CARE CAREGIVERS IN SWISS NICUS

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Aim This study explored the degree of burden of chronic exposure to difficult ethical decisions on health care providers (HCP) in Swiss level III NICUs.

Methods 224 questionnaires were sent to neonatologists and nurses of all level III NICUs. Demographical information, attitudes and behaviours towards ethical decisions, and the impact of those decisions on HCP's health and private life were collected.

Results 52 neonatal physicians and 60 nurses (27 men, 85 women, overall response rate 50%) took part in this survey. Altogether, 78% stated that the ethical dilemmas/decision-making represent a burden to them. 87% experience this burden as momentary. In nearly 40%, this burden affects private life; in another 48% it occasionally impact on private life. 25% of physicians and 10% nurses suffer from exhaustion. Most of the respondents find relief from stress through their hobbies (70%) and discussions with family members and friends (74%). The most used coping strategies are debriefings after ethical discussions, team discussions and support from hospital pastoral care. Professional moderation of debriefings was only rarely available (10%).

Conclusion Chronic exposure to stressful situations represents a burden for the majority of HCP working in NICU environment. Exhaustion is far more frequent than physical and psychosomatic symptoms. Hobbies and social contacts are important coping strategies. Given the potential of chronic burden to not only affect health of caregiver but also to shape the attitudes of caregivers in daily neonatal intensive care medicine, the importance of team debriefings and support under professional guidance cannot be stressed enough.

1050 ETHICAL DILEMMA IN NEONATOLOGY

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Aim To ascertain parents' attitude, knowledge and awareness of the type of Surfactant used in the Neonatal unit to treat Respiratory Distress Syndrome and their religious perspective.

Method This is a pilot project where we emailed all the staff with different cultural background in one Hospital a Surfactant survey questionnaire seeking their opinion as a parent.

Results We received 151 responses of which 63% were from females and 37% were from males. The majority of people who responded believe in Christianity (62%), 24% did not disclose their beliefs, 8% believe in Islam and 6% believe in Hinduism. More than half of the responses were from non-medical staff (55%), doctors (23%) and nursing staff (22%). 74% who responded felt that the neonatal unit should stock all available types of surfactant and 79% responded that there should have been discussions regarding the different types of surfactant available and this should be included in antenatal counselling. Approximately 11% preferred either bovine or porcine surfactant based on religious beliefs, 36% preferred non-animal derived surfactant which was for personal reasons and 53% had no preferences.

Conclusion In the current multicultural society, it is necessary to consider cultural beliefs of all patients. Paediatricians and Neonatologists must respect patient's and parent's autonomy and beliefs and they must be given sufficient information in a way that they can understand and are able to exercise their right to make informed decisions about their care. There are medico legal implications for ethical issues.

1051 PARMA PAP PROJECT: A READY TO USE THERAPEUTIC FOOD FOR MODERATELY MALNOURISHED CHILDREN IN SIERRA LEONE

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Background and Aims The Parma Pap Project started in 2008 as cooperation among Paediatric School, Human Nutrition Unit, Food Technology Laboratory, University of Parma and the NGO "Emergency", with the aim to develop a ready to use therapeutic food for the home-treatment of moderately malnourished African children. Parma Pap is a mix of peanuts, palm oil, milk powder and sugar, with high energy density and a micronutrient profile specifically designed on the base of WHO recommendations.

Methods The study included 330 moderately malnourished children between 6 months and 5 years, whose families referred to the Emergency Surgical Centre in Goderich, Sierra Leone. Patients with a Weight-for-Height Z score (WHZ) between 70% and 80% were enrolled and randomized into two groups: one received Feeding Program Supplementations (FPS: corn flour, palm oil and milk powder) + Parma Pap, whereas a control group received only FPS. The clinical follow-up lasted 13 weeks. Weight, height and WHZ were checked weekly and children were treated for concomitant infections.

Results The WHZ improvements were higher in children fed the Parma Pap with respect to the control group ($p < 0.01$, Mann-Whitney U-test for independent samples). A detailed analysis of approximately 200 drop-outs was carried out to identify the most relevant factors involved.

Conclusions Providing Parma Pap in addition to standard feeding in malnourished children in Sierra Leone was an effective strategy to improve growth and in quickly replete WHZ. Information about participant drop-out will help increasing compliance in future feeding studies.

1052 PLANNING SURGERY IN CHILDREN WITH COMPLEX DISABILITY

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Background Surgery in children with complex disability is ethically and practically difficult. Many disabled children benefit from relatively simple surgical procedures but the risks can deter some surgeons from performing the surgery. Some families do not fully understand the potential long term dependence that may follow.

Patients and Methodology A clinic appointment was made with a single consultant (RRR). A detailed history and examination was followed by a discussion of the risks of surgery. Specific risks discussed included an estimate of the risk of post-operative ventilation, and ventilation for longer than one week. Options for that eventuality (ranging from a tracheostomy and full intensive care through to palliative support) were then explained.

Results Twenty one visits in 20 patients have taken place. In five patients a Do Not Resuscitate order was already in place or had previously been discussed. Medical diagnoses were varied. Surgical procedures included gastrostomy formation, PEG change and muscle biopsy. Two children died before surgery and three others decided against the planned surgery in view of the risks. Of the 16 operations that took place, no children required post-operative ventilation. Length of stay varied between 1 day and 5 days (median 1.5 days). Nine patients have subsequently died.

Discussion Preoperative discussions were helpful to both families and staff, and helped clarify expectations. Extubation was often carried out with the parents present and agreement on non-reintubation. We suggest that brief surgical procedures in complex disabled children can be well tolerated and benefits from careful discussion ahead of surgery.

1053 NEONATAL ABSTINENCE SYNDROME: AN EVALUATION OF AN INFANT HOME-BASED WITHDRAWAL PROGRAM (IHBW)

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Background and Aims Conventional management of neonatal abstinence syndrome (NAS) often requires prolonged hospital admission, proving costly in both financial and social terms. However, safety issues often preclude the option of community-based withdrawal programs. We report the experience of our IHBW program.

Methods A retrospective audit was undertaken of infants older than 34 weeks gestation admitted to the Royal Women's Hospital Neonatal Unit for treatment of NAS between 2001–2010. Selected infants were offered the IHBW program from 2004.

Results 163 infants were admitted for treatment of NAS; 38 were managed on the IHBW program. 97% were exposed to opioids in utero. Morphine was used to treat 145 (89%) infants with 18 (11%) receiving either phenobarbitone or a combination of both.

Abstract 1053 Table 1 IHBW versus conventional management of NAS

	Conventional (N=125)	IHBW (N = 38)	Mean difference (95% CI) or p value
Maternal Age (yr)	27.6 (5.8)	29.2 (5.7)	1.12 (–1.0, 3.2)
Gestational Age	38.4 (1.5)	39.2 (1.3)	0.7 (0.2, 1.2)
Birth weight (g)	2929 (545)	3087 (355)	158 (–28,344)
NAS score before medication	8.6 (1.7)	9.3 (1.8)	0.7 (0.001, 1.4)
Days of hospital stay	39 (12)	19 (12)	–20.3 (–24.7, –15.9)
Total dose morphine (mg/kg/birthweight)	11.6 (5.6)	10.2 (5.4)	–1.4 (–3.4, 0.6)
Foster Care	27 (22%)	2 (5%)	0.02
Child Protection Involvement	75 (60%)	9 (24%)	<0.001
Data in mean (SD)			