the local Research Ethics Committee and informed consent was obtained from the parents. Venous blood sampling was performed from a peripheral vein. Levels of malondialdehyde (MDA), superoxide dismutase (SOD), reduced glutathione (GSH), and catalase (CAT) were measured before and 24 h after phototherapy. Statistical analyses were conducted using the SPSS version 20.0. Statistical significance was accepted at p < 0.05.

Results The levels of CAT increased after phototherapy in the all groups; however, this increased was not statistically significant (p > 0.05). The levels of GSH in the very preterm group were also found to be decreased significantly after phototherapy. It was observed that levels of MDA were elevated significantly in term neonates as compared to very preterm and late preterm neonates.

Conclusions Phototherapy did increase the oxidative stress in the term, very preterm, and late preterm newborns with jaundice.

PO-0626 | **WHICH INFANT MANNEQUIN DO YOU PREFER?: USER PREFERENCE AND BAG MASK ABILITY OF DIFFERENT MANNEQUIN MODELS**

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Background There are a number of infant mannequins available for teaching newborn and infant bag mask ventilation (BMV) skills. These include the NeoNatalie newborn mannequin and the Baby Anne[TM] infant mannequin (both Laerdal Medical Foundation, Stavanger, Norway).

Objectives To examine user preference and user ability to perform effective BMV with these mannequin models.

Methods Each participant was randomised to use the Baby Anne[TM] infant mannequin (BA) and the NeoNatalie mannequin fully filled with air (NNA), fully filled with water (NNW) and filled with 50% air and 50% water (NNAW), each for a 30 second period. Participants were asked to rate the level of fidelity of the mannequins to a "real baby" on a 5-point likert scale in terms of appearance, weight, feel, tone and realism of ventilation.

Results 20 participants completed this study (10 doctors, 10 nurse/midwives).

Fidelity: BA was similar to NNWA in terms of appearance and similar to NNW in terms of weight. However, in terms of touch, muscle tone and realism of ventilation, NNW and NNWA were similar and greatly exceeded BA and NNA.

Breaths: Although all configurations were generally comparable, NNW had the most effective breaths delivered.

Discussion The NNW and NNAW were both shown to have the highest level of fidelity to a "real baby" and had the highest number of effective ventilations delivered. The NNA was disliked in terms of fidelity, and the most difficult to bag due to the difficulty in positioning the airway. This study suggests that NeoNatalie configurations that contain water are the easiest to provide BMV.

PO-0627 | **OUTCOMES FOR SUBSTANCE MISUSING WOMEN AND THEIR INFANTS 2006–2011: CHANGES OVER A 5 YEAR TIME PERIOD**

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Background and aims Substance misuse within the UK population continues to be a public health concern. Many of those using illicit drugs are women of childbearing age.

Infants born to such women are at risk of Neonatal Abstinence Syndrome (NAS) and can require a prolonged stay on the neonatal unit.[1]

Understanding of the demographics and outcomes of this vulnerable group of infants and their mothers is vital in order to evolve services to meet needs and improve outcome.

Methods Retrospective review of substance misusing pregnant women and their offspring, 2006–2011.

Basic demographic data and specific outcome measures for the infants was collected over the 5 year period.

Changes over that 5 year time period were explored.

Results 442 women and their infants were included in the study. All infants were admitted for treatment/observation of NAS.

The majority of women were of white British (85.7%). Opiates were the most commonly misused substances. 18% of the babies were low birth weight. Breastfed babies were more likely to be discharged within first 7 days of life compared to artificially fed babies (47.6% vs 30.6%, OR 1.55, 95% CI 0.95 to 2.53).

Conclusion The management of infants with NAS continues to challenge. Breastfeeding leads to reduced intensity of NAS, and should be recommended to shorten length of hospital stay for infants born to substance misusing mothers.

REFERENCES

1 Dryden C, Young D, Hepburn M, et al. Methadone use in pregnancy: factors associated with the development of neonatal abstinence syndrome and implications for healthcare resources. *BJOG*. 2009;116:655–67

PO-0628 | **REDUCING SERUM BILIRUBIN DETERMINATIONS IN OUTPATIENT NEWBORNS BY SCREENING WITH TRANSCUTANEOUS BILIRUBINOMETRY**

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Background and aim We have previously shown that using Transcutaneous bilirubin (TCB) values that are 90% of the age specific SBvalue (SBPh) for phototherapy can markedly reduce the need for invasive serum bilirubin (SB) in Day 1–3 inpatient babies. This study aims to determine if the same principle can be applied in older babies in the outpatient setting.

Methods Three to 14 day olds with jaundice at an outpatient care centre in Singapore and needing a SB measurementwere enrolled after obtaining written informed consent. Their TCB level was determined with a commercial bilirubinometer. Correlations and Bias was determined. Using ROC curves, the TCB values that identified the need for an SB were determined.

Results 1072 paired SB and TCB values were obtained from a Chinese (39%), Malay (35%), Indian (14%) and Others (12%) cohort. Spearman's correlation coefficientsby age groups ranged from 0.882(2–5 days) to 0.95 (> 14 days). The mean bias (SD) was -8(23.2) and the limits of agreement were -54.4 to 38.4 from the Bland Altman analysis. TCB values that were 90% of the SBPh yielded accuracy and sensitivity rates (%) of 90 and