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Early Detection of Cerebral Palsy in Ireland

The first year in the National Maternity Hospital

E Lennon, J Egan, S Hennigan, M Hughes, S Kasha, M Murphy, D Sweetman.
National Maternity Hospital, Dublin.

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NMH Research
Creating a better future for women and babies

BACKGROUND

Cerebral palsy (CP) is the most common lifelong physical disability. It is a non-progressive disorder of movement originating from neural lesions in the perinatal period. It can respond well to early intervention, as brain plasticity is at its greatest in the first 2 years of life. However, in most clinical settings, the age for diagnosis of CP is between 24 to 29 months.

AIMS

As part of a multicentre study with the Cerebral Palsy Foundation, the National Maternity Hospital (NMH) aims to:

- Identify infants that are High Risk for CP (HRCP)
- Reduce the age of CP diagnosis

METHODS

The study commenced in NMH in September 2023. Newborns at high risk of developing CP were identified and consented for inclusion.

Inclusion criteria:

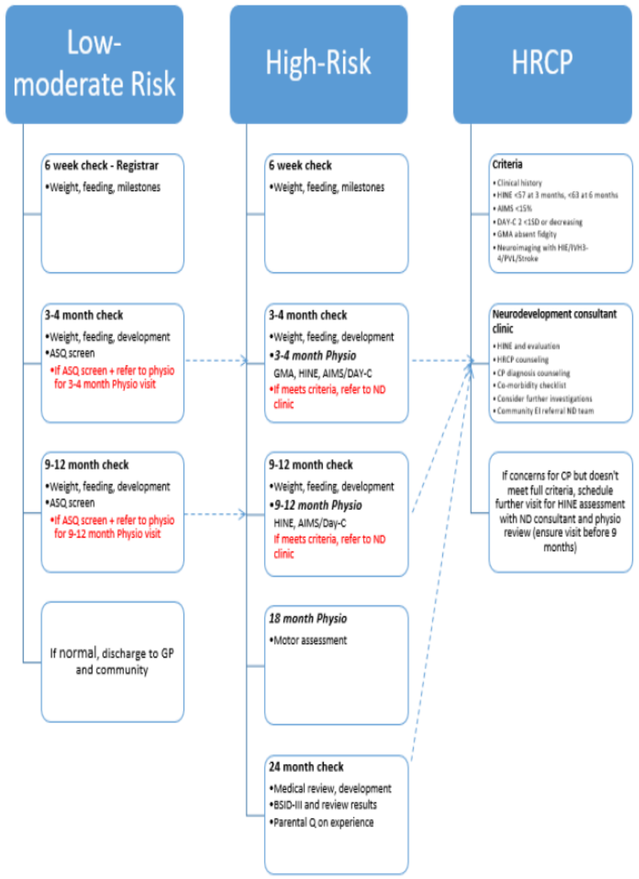
1. born <32 weeks Post Menstrual Age or ≤1500g birth weight
2. Grade 2 / Grade 3 Neonatal encephalopathy requiring therapeutic hypothermia.
3. Infants with significant neurological risk factor (eg structural brain malformation/brain injury/persistently abnormal neurological examination)
4. Infants who at a standard clinical follow up assessment, move into the high risk category due to assessment outcomes

Data collection from the medical charts included birth history/diagnosis, birth weight, gestation, CRUSS, MRI reports, placental histology.

Standardised clinical assessments performed by physiotherapists and medical clinicians:

- General Movement Assessment
- Hammersmith Infant Neurological Examination
- Alberta Infant Motor Assessment

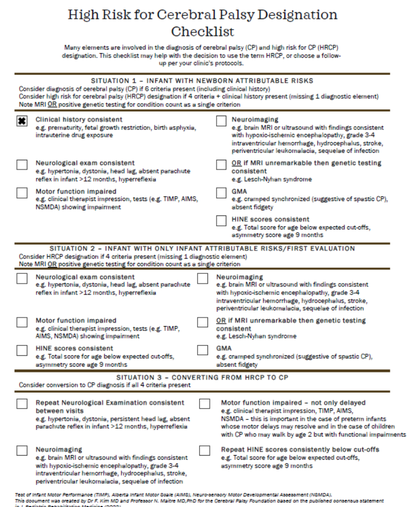
Study Pathway



RESULTS

<u>September 2023 – September 2024</u>

Number consented: 54
Number of High Risk for CP designations: 3
Average age at time of designation: 5 months corrected gestational age
Number of CP diagnosis: 0
Number of infants referred to CDNT: 8



High Risk for Cerebral Palsy Designation Checklist

Many elements are involved in the diagnosis of cerebral palsy (CP) and high risk for CP (HRCP) designation. This checklist may help with the decision to use the term HRCP, or choose a follow-up per your clinic's protocols.

SITUATION 1 – INFANT WITH NEWBORN ATTRIBUTABLE RISKS

Consider diagnosis of cerebral palsy (CP) if 6 criteria present (including clinical history)
Consider high risk for cerebral palsy (HRCP) designation if 4 criteria + clinical history present (missing 1 diagnostic element)
Note MRI OR positive genetic testing for condition count as a single criterion.

- [x] Clinical history consistent – e.g. prematurity, fetal growth restriction, birth asphyxia, intrauterine drug exposure
- [ ] Neuroimaging – e.g. brain MRI or ultrasound with findings consistent with hypoxic-ischemic encephalopathy, grade 3-4 intraventricular hemorrhage, hydrocephalus, stroke, periventricular leukomalacia, sequelae of infection
- [ ] Neurological exam consistent – e.g. hypertonia, dystonia, head lag, absent parachute reflex in infant >12 months, hyperreflexia
- [ ] OR If MRI unremarkable then genetic testing consistent – e.g. Lesch-Nyhan syndrome
- [ ] Motor function impaired – e.g. clinical therapist impression, tests (e.g. TIMP, AIMS, NSMDA) showing impairment
- [ ] GMA – e.g. cramped synchronized (suggestive of spastic CP), absent fidgety
- [ ] HINE scores consistent – e.g. Total score for age below expected cut-offs, asymmetry score age 9 months

SITUATION 2 – INFANT WITH ONLY INFANT ATTRIBUTABLE RISKS/FIRST EVALUATION

Consider HRCP designation if 4 criteria present (missing 1 diagnostic element)
Note MRI OR positive genetic testing for condition count as a single criterion.

- [ ] Neurological exam consistent – e.g. hypertonia, dystonia, head lag, absent parachute reflex in infant >12 months, hyperreflexia
- [ ] Neuroimaging – e.g. brain MRI or ultrasound with findings consistent with hypoxic-ischemic encephalopathy, grade 3-4 intraventricular hemorrhage, hydrocephalus, stroke, periventricular leukomalacia, sequelae of infection
- [ ] Motor function impaired – e.g. clinical therapist impression, tests (e.g. TIMP, AIMS, NSMDA) showing impairment
- [ ] OR If MRI unremarkable then genetic testing consistent – e.g. Lesch-Nyhan syndrome
- [ ] HINE scores consistent – e.g. Total score for age below expected cut-offs, asymmetry score age 9 months
- [ ] GMA – e.g. cramped synchronized (suggestive of spastic CP), absent fidgety

SITUATION 3 – CONVERTING FROM HRCP TO CP

Consider conversion to CP diagnosis if all 4 criteria present

- [ ] Repeat Neurological Examination consistent between visits – e.g. hypertonia, dystonia, persistent head lag, absent parachute reflex in infant >12 months, hyperreflexia
- [ ] Motor function impaired – not only delayed – e.g. clinical therapist impression, TIMP, AIMS, NSMDA – this is important in the case of preterm infants whose motor delays may resolve and in the case of children with CP who may walk by age 2 but with functional impairments
- [ ] Neuroimaging – e.g. brain MRI or ultrasound with findings consistent with hypoxic-ischemic encephalopathy, grade 3-4 intraventricular hemorrhage, hydrocephalus, stroke, periventricular leukomalacia, sequelae of infection
- [ ] Repeat HINE scores consistently below cut-offs – e.g. Total score for age below expected cut-offs, asymmetry score age 9 months

Test of Infant Motor Performance (TIMP), Alberta Infant Motor Scale (AIMS), Neuroscreen, Motor Developmental Assessment (NSMDA).
This document was created by Dr F. Kim MD and Professor N. Maitre MD,PhD for the Cerebral Palsy Foundation based on the published consensus statement in J. Pediatric Rehabilitation Medicine (2022)

Conclusion

Early detection of Cerebral Palsy is key to optimising outcomes as neuroplasticity is greatest in early childhood. Early standardised assessment of high risk infants can improve early diagnosis of CP and referral to specialised services.

CEREBRAL PALSY FOUNDATION
DISCOVERY FOR DISABILITY

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Maitre NL et al. Network implementation of guideline for Early detection decreases age at Cerebral Palsy Diagnosis. Pediatrics. 2020 May; 145(5):e20192126

Macrosomia and childhood growth trajectories from birth to 10 years of age: findings from the ROLO longitudinal birth cohort

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BACKGROUND

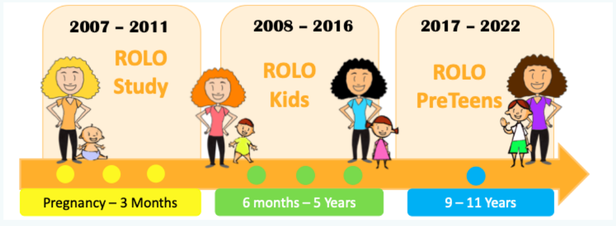
- One third of all children and adolescents globally are predicted to be living with overweight or obesity by 2030.
- Macrosomia is associated with overweight and obesity across the life course.
- Most research to date has been based on cross-sectional analyses.
- Longitudinal investigations between macrosomia and developmental trajectories of growth throughout the first decade of life are lacking.

AIMS

- This research aimed to examine associations between macrosomia and postnatal growth trajectories (weight, length/height, BMI, and waist circumference) from birth to 10 years of age.

METHODS

This is a secondary analysis of 610 children born into the ROLO longitudinal birth cohort study.



Exposure: macrosomia
- Dichotomised ≥4 kg and <4 kg
- Dichotomised ≥4.5 kg and <4.5 kg
- Dichotomised ≥90th and <90th birthweight centile

Outcomes: childhood growth trajectories from birth to 10 years of age.
- Weight, height
- Body mass index
- Waist circumference

Statistical analysis:
- Linear spline multilevel modelling
- Confounders chosen based on the literature

RESULTS

Cohort characteristics

51.3% had a birthweight ≥4 kg.

50% of neonates were born male.

Median maternal age at delivery was 32.4 years.

90.3% of mothers identified as White Irish.

Main findings

Birthweight ≥90th centile was associated with **slower waist circumference growth** from birth to 6 months of age (-0.09 cm/week (95% CI = -0.12, 0.03)).

Birthweight ≥4 kg was associated with **faster growth in weight** from 6 months to 2 years of age (0.006 kg/week (95% CI = 0.001, 0.01)).

Decelerated growth in weight z-score, length/height z-score and BMI z-score from 2 to 5 years of age (varied depending on cut-off).

N/S for all associations

Conclusion

- Macrosomia was not strongly associated with childhood growth trajectories during the first decade of life.
- Associations varied according to macrosomia criteria and growth measure but have uncertain clinical relevance and require additional future research.
- Additional longitudinal research is needed to confirm our findings.

ALIGNMENT OF THE PLANETARY HEALTH DIET WITH PREGNANCY DIETARY GUIDELINES: INSIGHTS FROM TWO COHORTS

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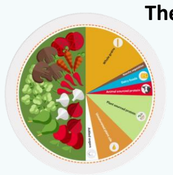
BACKGROUND

The Planetary Health Diet is a mostly plant based diet that aims to optimise human health whilst minimising the environmental impact of food production.

Food systems currently

- Drive 34% of human-induced greenhouse gas emissions
- Consume 70% of global freshwater
- Contribute to habitat conversion and species extinction



The Planetary Health Diet Emphasises a balanced intake of:

- Plant-based foods
- Moderate amounts of animal products
- Minimal consumption of processed foods and added sugars

Pregnancy is a time in the lifecourse with additional nutritional requirements. There is a paucity of data on whether the Planetary Health Diet fulfils key nutritional requirements during pregnancy.

AIMS

1. To examine the relationship between adherence to the Planetary Health Diet in pregnancy and how it aligns with nutrient intake.

2. To investigate how the Planetary Health Diet correlates with dietary guidelines in pregnancy.

METHODS

This study will use prospectively collected data from two Irish cohorts recruited from The National Maternity Hospital, Dublin:

Microbe Mom

Microbe Mom:
a probiotic Randomised Control Trial

ROLO

ROLO:
a **R**andomised c**O**ntrol trial of a **LO**w glycemic index diet in pregnancy

Baseline dietary data was used to assign Planetary Health Diet Index (PHDI) scores (0-140) to healthy pregnant women (Microbe Mom and ROLO). Dietary intakes during pregnancy were determined using **3-day food diaries.** Adherence to dietary guidelines and nutrient intakes will be analysed in relation to the PHDI score in early pregnancy (~12-16 weeks). The cohort was dichotomised into a **'High PHDI' (>88.99**) and **'Low PHDI' (≤88.99**) group based on the median PHDI score. All statistical analyses were performed using SPSS. Descriptive statistics included T-tests, Chi-square tests, and Mann Whitney U tests. P values <0.05 were considered statistically significant.

EUROPEAN FOOD SAFETY AUTHORITY

Nutrient intakes were compared to European Food Safety Authority (EFSA) reference values.

Linear regression models analysed the associations between the PHDI score and maternal nutritional status while adjusting for potential confounders

RESULTS

Cohort Characteristics:

- 678 women were eligible for inclusion in this study
- Majority (87.9%) were White Irish.

Those in the **'High PHDI'** group were significantly **older**, were of **higher socioeconomic status**, and had **higher educational attainment**. Those in the **'Low PHDI'** group had a **higher median weight and BMI**.

Nutrient intake in Low PHDI vs High PHDI groups

Women in the **Low PHDI** reported higher intakes of:

- **Vitamin B3 (Biotin)**

Women in the **High PHDI** reported higher intakes of:

- **Dietary Fibre**
- **Folate**
- **Calcium**
- **Vitamin A, E, K, C**
- **Potassium**
- **Iron**

Only **2.7%** of the total cohort met EFSA **Folate** recommendations in pregnancy (≥600 mg/DFE/d)

	EFSA Guideline Recommendations	Low PHDI Score (≤ 88.99)	High PHDI Score (>88.99)	p value
	**Meeting Iron requirements** (≥ 16 mg/d)	31 (9.1%)	58 (17.1%)	**0.002**
	**Meeting Calcium requirements** (<1000 mg/d for 18-24yr olds and <950 mg/d for 25yrs and older)	130 (38.3%)	177 (52.5%)	**<0.001**
	**Meeting Vitamin C requirements** (≥ 105 mg/day)	135 (39.9%)	208 (61.4%)	**<0.001**
	**Meeting Magnesium requirements** (≥ 300 mg/day)	67 (19.8%)	133 (39.2%)	**0.001**

Those in the **'High PHDI'** group were significantly more likely to meet EFSA nutrient intake recommendations **for Iron, Calcium, Vitamin C, and Magnesium** compared to those in the **'Low PHDI'** group after adjusting for BMI, Age, Socioeconomic status, education status, energy intake and dietary misreporting.

Conclusion

The Planetary Health Diet may support maternal nutritional adequacy during pregnancy, while promoting environmental sustainability. Our findings provide valuable insights that can inform future dietary recommendations for pregnancy, contributing to both maternal and neonatal health as well as planetary well-being. This dual-focus approach aligns with global efforts to address the intersecting challenges of nutrition, public health, and climate change. Further research is needed to explore the long-term maternal and fetal health implications associated with adherence to the Planetary Health Diet during pregnancy.

IV Ferric Carboxymaltose administration for severe anaemia following postpartum haemorrhage.

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1. Aims:

To review the discharge Haemoglobin (Hb) levels of all patients who had a postpartum haemorrhage(PPH) and assess if they had received IV Ferric Carboxymaltose (FCM) prior to discharge.

The local guidelines within our hospitals recommend that all patients with a discharge Hb <8g/dL should be offered IV FCM.

2. Methods:

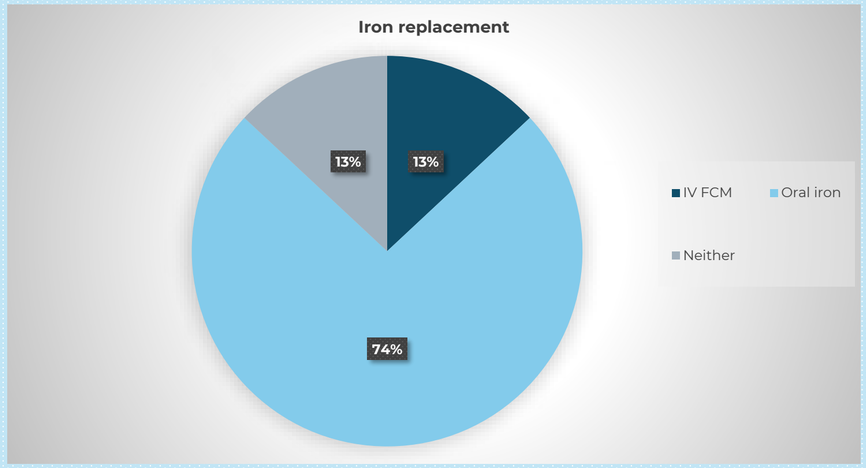
A retrospective chart analysis of patients with a PPH of >1,500mL over a six-month period was carried out using the electronic data-base MN-CMS.

The discharge Hb was noted for all patients meeting this criteria and those with a Hb <8g/dL were reviewed to assess the use of IV FCM or oral iron supplementation on discharge.

3. Results:

80 patients identified as having a PPH >1,500mls over a 6-month period.

Of these, 23 patients were found to have had a discharge Hb <8g\dL.



26 patients were noted to have a Hb between 8.0-8.9g/dL. Of these, none received IV FCM, 21 were prescribed po iron and 5 had no iv or po iron prescribed or discussed prior to discharge.

4. Discussion:

Postpartum anaemia has profound implications for maternal health, infant care, mental well-being, and long-term recovery.

Compared to oral iron, IV iron is more costly, however it leads to a faster increase in haemoglobin, better iron store replenishment, and greater symptom improvement (1).

The NATA consensus recommends that IV iron is administered to patients with a Hb <9.0g/dL, locally we recommend it with a Hb <8.0g/dL (2).

Despite a hospital guideline which indicates that we should have offered 23 patients IV FCM, just 3 received it.

This audit will inform a QI project to promote timely administration aiming to improve postpartum recovery in our patients.

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The impact of e-cigarette use on ovarian reserve and outcomes of assisted reproductive technology. A systematic review.

S Petch[1,2,3], C Nolan[1,2,3], L Glover[1,2], D Crosby[1,2,3]

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BACKGROUND

The negative impact of cigarette smoking on female ovarian reserve is well established.

Endocrine disruptor chemicals are linked to reduced female and male fertility (1). Smoking has been shown to reduce ovarian reserve and result in an earlier age of menopause (2).

Less is known about the impact of vaping (e-cigarette use) but emerging evidence is concerning.

The number of young people vaping is increasing and 1 in 5 women of childbearing age are estimated to vape (3).

AIMS

The aim of this systematic review was to review the literature on the impact of vaping (e-cigarette use) on ovarian reserve and outcomes of assisted reproductive technology (ART), including *in vitro* fertilisation (IVF) and intracytoplasmic sperm injection (ICSI).

METHODS

PRISMA guidelines were followed, study was registered on PROSPERO (CRD42024590117).
Time frame for studies: 2019-2025, searches in Sept 2024 and repeated
Databases searched: PubMed, the Cochrane database, EMBASE and CINAHL and conference abstracts from BFS, ASRM and ESHRE
Search terms: 'vaping' or 'e-cigarette', 'Ovarian reserve', 'infertility' or 'subfertility', 'fecundability' and 'Pregnancy rate' or 'ART outcomes'.
Inclusion criteria: Experimental or observational studies including human female participants, vaping as exposure and objective measurements of ovarian reserve and results of ART as outcomes.
Exclusion criteria: animal studies, male only participants, review/opinion articles
The ROBINS-E tool for risk of bias assessment was used.

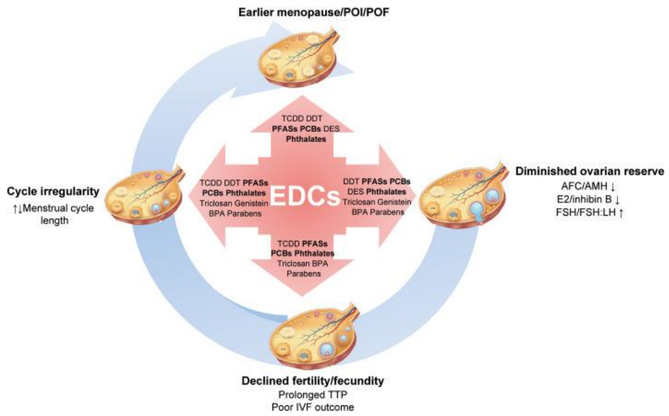

Figure 1: Impact of EDCs on ovarian function

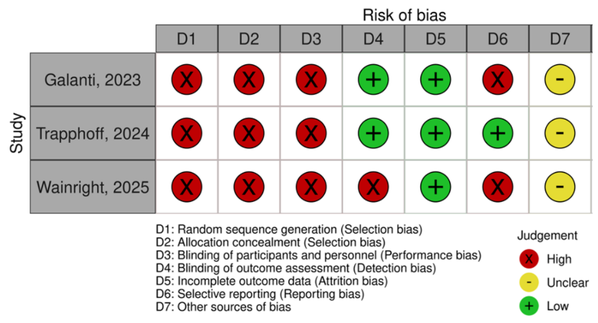

Figure 2: Risk of bias tool (robvis)

RESULTS

The initial search included 213 studies. Three studies met the inclusion criteria.
One study involved a retrospective review of Anti-Müllerian hormone (AMH) levels in > 20,000 healthy women of reproductive age and observed a **8% reduction in AMH levels in current vapers and 5% reduction in occasional vapers compared to non-vapers (4).**
Two of the studies were prospective observational studies on outcomes of intracytoplasmic sperm injection (ICSI) for infertile couples, comparing smokers/vapers to non-smokers(5,6).
One study reported significantly lower AMH levels fertilisation rates but neither study reported a difference in clinical outcomes.

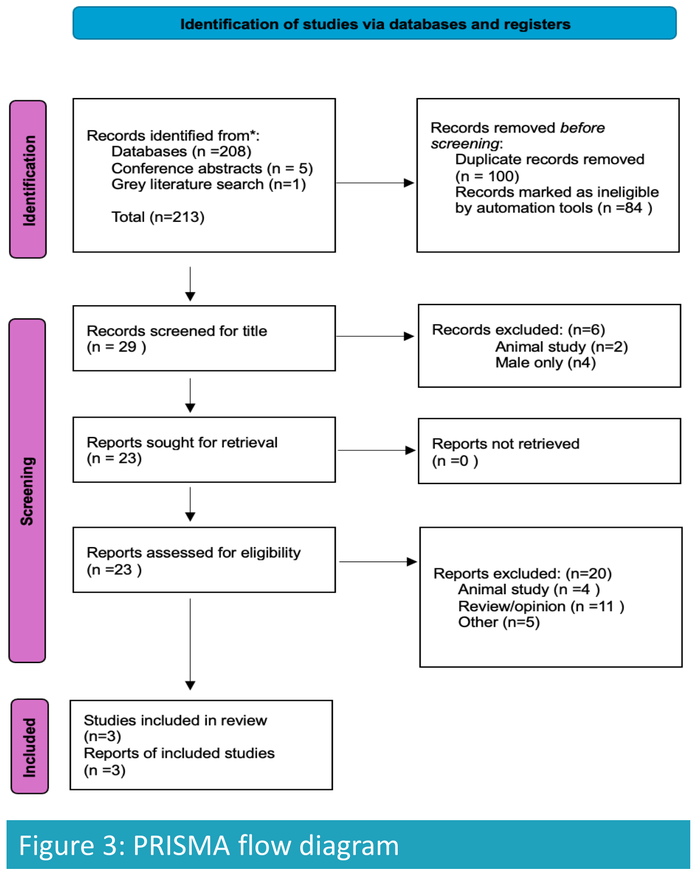

Figure 3: PRISMA flow diagram

CONCLUSIONS

Vaping appears to reduce ovarian reserve.
A greater reduction in ovarian reserve was observed in 'current' vapers than 'occasional' vapers suggesting the reduction may be dose dependent but the threshold for harm and whether the effect is reversible is unclear.
Whether vaping impacts on the success of ART is yet to be empirically proven.

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Patient perceptions on the use of artificial intelligence (AI) in fertility treatment

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BACKGROUND

Artificial intelligence (AI) in healthcare utilities machine learning to improve aspects of healthcare delivery. Within fertility care AI has been developed to aid in embryo selection, sperm analysis, predicting treatment outcomes, patient monitoring and clinical decision making.

As research continues to further test and develop these artificial intelligence programs, there has been little research on patient knowledge, attitudes and perceptions around the use of AI within a fertility clinic and treatment.

AIMS

This study aims to investigate how patients feel about the use of AI during their fertility treatment to better inform those working in development of AI in the reproductive medicine setting about how these technologies will be received.

METHODS

A cross-sectional survey study was conducted at a private fertility clinic. Men and women who underwent fertility assessment and/or treatment between June 2024 and December 2024 were identified using the electronic patient management system. An anonymous survey was sent via email using Survey Monkey.

The questionnaire gathered patient demographics, patient education status, previous ART and outcome; there were a total of 19 questions. Patient comfort levels (1= not at all comfortable, 2= not very comfortable, 3=somewhat comfortable, 4= very comfortable) with the use of artificial intelligence being used in the fertility clinic were assessed using a Likert four-point comfort scale. Option for patient comments were included.

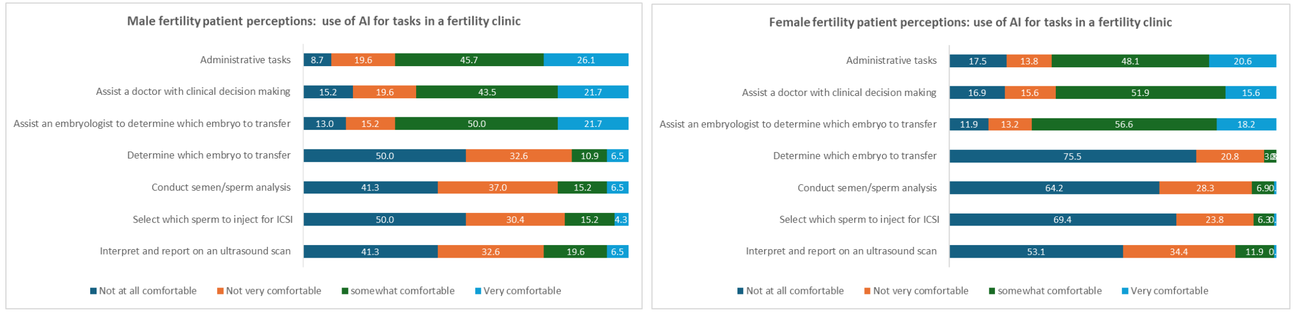

Figure 1: Patient comfort levels with use of AI to conduct tasks during fertility treatment. (A) All respondents. (B) Responses by gender. *Gender differences calculated using Fisher's exact test

RESULTS

Overall, 206 responses were received (78% female, 22% male). A majority (53%) of respondents had previous experience with artificial technology (AI). While 41% believed that AI could improve outcomes in a fertility clinic, most (56%) indicated that they "did not know" if AI would improve outcomes.

Respondents were comfortable with AI being used in administrative tasks (69%), assisting with clinical decisions (67%) and assisting an embryologist with embryo selection (74%). However, respondents were not comfortable with AI alone directing aspects of fertility treatment such as deciding which embryo to transfer (93.1%), conducting semen analysis (89.2%), sperm selection in ICSI (90.2%) or the interpretation of an ultrasound scan (84.5%). Men were more likely to be comfortable with AI alone determining which embryo transfer (p=0.0037), AI alone conducting semen analysis (p=0.01), AI alone selecting which sperm to inject for ICSI (p=0.02) and AI reporting on an ultrasound scan (p=0.0362), despite no difference in previous experience with AI (60.9% vs 50.3%; p=0.2). Dominant themes regarding the benefits of AI included its use as an assistant to clinician or embryologist, improving efficiency, and reducing human error, while dominant themes of patient concerns with the use of AI included human replacement, loss of empathy, and the need for AI to be monitored.

Figure 2: Word cloud of patient's perceptions on the benefits and concerns of adoption of AI into fertility care

Conclusion

Overall, fertility patients have concerns regarding the introduction of AI into fertility care, with men more likely than women to be comfortable with AI performing embryo selection, semen analysis, sperm selection for ICSI and reporting an ultrasound.

Antimullerian Hormone (AMH) level is a marker of successful biopsy in patients intending to perform preimplantation genetic testing

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BACKGROUND

Anti-Mullerian hormone (AMH) is a glycoprotein of the TGF-β superfamily that is secreted by the granulosa cells of antral follicles and is present in the systemic circulation. Preimplantation genetic testing (PGT) can be used to test for the genetic makeup of embryos prior to transfer. PGT-A is performed to select a euploid embryo, PGT-M tests for monogenic disease and PGT -SR can test for structural rearrangements. PGT-M and PGT -SR if performed in couples where there is a risk of inheriting a genetic or chromosomal abnormality. PGT does incur significant cost and cost effectiveness of PGT-A is dependent on patient age with most benefit seen in those over the age of 38.

AIMS

To determine whether AMH level can predict likelihood of producing blastocysts suitable for biopsy in patients intending to undergo PGT and how this can be used to more effectively counsel patients

METHODS

This was a retrospective analysis of all patients who intended to undergo fresh PGT testing in a single centre from April 2023 to December 2024. There was a total of 226 intended cycles; patient demographics, including BMI and AMH (pmol/L) cycle stimulation, oocytes collected, embryo number and successful biopsy with outcome was recorded.

	Total (n=226)	No Biopsy (n=74)	Biopsy (n=152)	P
Age (years) Mean (SD) 95% CI	39.8 (+/- 2.7) 39.4-40.1	40.9 (1.9) 40.4-41.3	39.2(2.9) 38.7 -39.7	<0.0001
BMI Mean (SD) 95% CI	24.7 (4.2)	25.1 (4.0) 24.2 – 26.0	24.4 (4.3) 23.4 -25.1	0.1572
AMH (pmol/L) Mean (SD) 95% CI	13.2 (10.8)	8.7 (6.1) 7.4 -10.2	15.3 (11.9) 13.4 -17.2	<0.0001

Table 1

AMH (pmol/L)	>3	>5	>7
Sensitivity	93.4% (88-96)	88.8% (83-93)	79.6% (73 -85)
Specificity	10.8%(6-20)	28.4% (19-40)	43.2% (33-55)
PPV	68.3% (62-74)	72% (65-78)	74.2% (67-80)
NPV	44.4% (25-66)	55% (40-70)	50.8% (39-63)
Odds ratio of having an embryo biopsy	1.721 (0.65-4.76)	3.147 (1.52 0 6.29)	2.974 (1.6-5.32)

Table 2

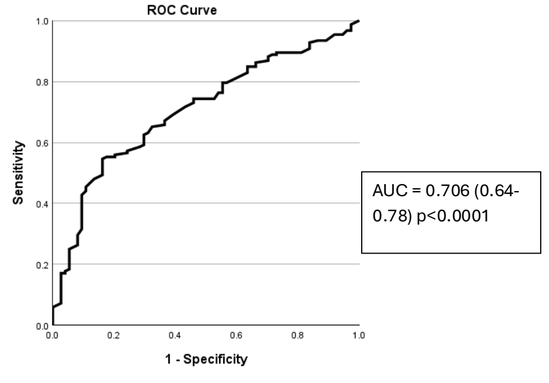
RESULTS

A total of 2122 cycles were commenced between April 2023 to December 2024 and of those 226 were intended PGT cycles. There 198 patients who underwent an oocyte retrieval and 152 patients had a suitable embryo to biopsy. Patient characteristics are shown in table 1; both age and AMH influenced likelihood of biopsy.

There were 12.4% (n=28) of patients who did not have an oocyte retrieval. This was due to poor ovarian response (9.7% n=22), failure to down regulate (1.8% n=4), an ovarian cyst (0.4% n=1) and one spontaneous pregnancy. There were 46 patients (20.4%) who underwent oocyte retrieval but did not proceed with biopsy. Nine of these patients had an embryo transfer without PGT and there was one livebirth in this group. These patients decided not to proceed with PGT biopsy due to the low numbers and inability to biopsy the low-grade blastocysts.

To predict likelihood of having suitable embryos to biopsy in patients intending to pursue PGT, receiver operator curve (ROC) analysis was performed with serum AMH levels. ROC analysis was associated with an AUC of 0.70 (95% CI 0.64-0.78, *P*<0.0001). Further logistic regression was performed with both AMH levels and age to predict likelihood of biopsy. ROC analysis with AMH and age was associated with an AUC of 0.74 (95% CI 0.675 -0.807).

The sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV) and odds ratios associated with different cut-offs of AMH is shown in table 2.



Conclusion

Patients can be counselled regarding their likelihood of successful embryo biopsy using both their AMH level and age. Patient with an AMH < 5pmol/l have a significantly reduced likelihood of having suitable embryos to biopsy when planning a PGT cycle. Patient counselling is important for patients with a low ovarian reserve who wish to proceed with PGT as there is a higher likelihood of cycle cancellation and no suitable embryos for biopsy.

STRESS AND DEPRESSION RISK IN EARLY PREGNANCY ASSOCIATES WITH SUPPRESSED TNF-A LEVELS

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BACKGROUND

Stress, anxiety, and depression affect up to **15% of pregnant women** and are associated with **pregnancy complications** such as preterm birth, gestational diabetes, and pre-eclampsia.

The maternal **immune system plays a central role in pregnancy**, requiring a careful balance of inflammatory and anti-inflammatory responses to support implantation, fetal development, and labour.

Psychological distress may influence immune function, but findings in pregnancy are inconsistent, with some studies showing heightened inflammation and others showing suppression. Research exploring the link between maternal mental health and immune cell activity in pregnancy is limited, despite its potential relevance to maternal and fetal health.

AIMS

To evaluate the associations between maternal psychological factors (well-being, stress, and depression risk) and immune function during pregnancy, using serum and PBMC-derived inflammatory markers assessed in early and late gestation.

METHODS

This was a secondary analysis of data from 70 pregnant participants enrolled in the MicrobeMom2 randomised controlled trial.

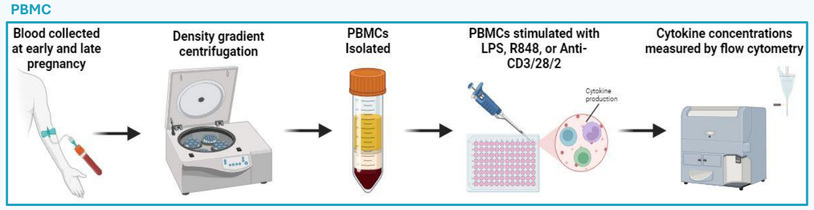
Assessment of Psychological Factors

Measures	Assessment Tool
Well-being	WHO-5 Well-being Index
Perceived Stress	Perceived Stress Scale
Depression Risk	Edinburgh Postnatal Depression Scale

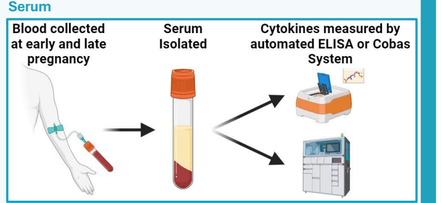
Assessment of Immunological Factors

Immune Marker	Origin	Analysis Tool
IL-17A, IL-6, TNF-α, CD163, ICAM1, GDF-15, Leptin	Serum	Protein Simple ELLA
CRP, C3	Serum	Cobas System
TNF-α, IL-6, IL-2, IL-10, IFNγ	Stimulated PBMCs	Biolegend LEGENDplex™ Human Inflammation Panel

PBMC



Serum



Statistical Analysis

- Comparison of immune marker levels between high/low score groups: Independent t-tests and ANOVA
- Investigation of associations between immune marker levels and questionnaire scores: Linear regression

RESULTS

Baseline Demographics

Mean maternal age was 33.2 years

82.9% of mothers were white Irish

Median maternal BMI was 24.81

20% were nulliparous

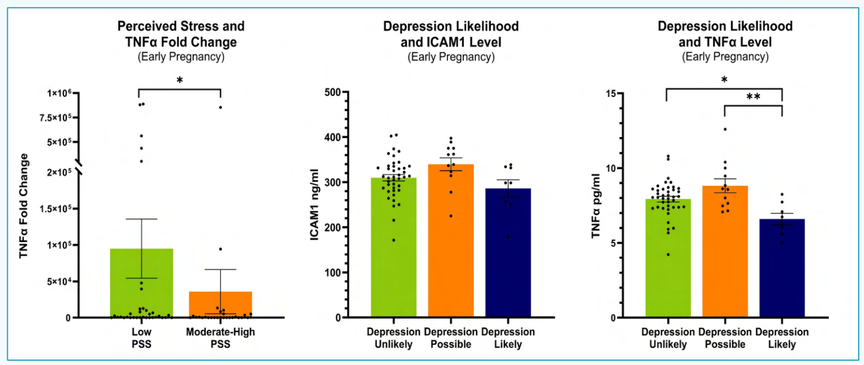
Questionnaire Scores

Questionnaire Score	Early Pregnancy		Late Pregnancy	
	n	Value	n	Value
WHO-5 Well-being Index Score	62	58.00 (48.00, 72.00)	70	62.00 (48.00, 72.00)
- Low WHO Well-being Score (n, % <50)	62	18 (29.0 %)	70	21 (30.0%)
- High WHO Well-being Score (n, % ≥50)	62	44 (71.0%)	70	49 (70.0%)
Perceived Stress Scale Score	62	14.11 (5.93)	70	13.79 (6.49)
- Low perceived stress score (n, % ≤13)	62	34 (54.8%)	70	35 (50.0%)
- Moderate perceived stress score (n, % ≥14 and ≤ 26)	62	26 (41.9%)	70	33 (47.1%)
- High perceived stress score (n, % ≥27)	62	2 (3.2%)	70	2 (2.9%)
Edinburgh Postnatal Depression Scale Score	62	6.50 (4.00, 10.25)	67	6.00 (4.00, 10.00)
- Unlikely to have depression (n, % <10)	62	42 (67.7%)	67	47 (70.1%)
- Possibility of depression (n, % ≥ 10 and <13)	62	12 (19.4%)	67	16 (23.9%)
- Likely to have depression (n, % ≥13)	62	8 (12.9%)	67	4 (6.0%)

Results presented as n (%), mean (SD), or median (25th, 75th percentile)

Main Findings

- **Higher stress scores** were associated with **decreased PBMC secreted TNF-α** in early pregnancy.
- **Increased depression risk scores** were associated with **decreased serum TNF-α and ICAM1** in early pregnancy.



PSS = Perceived Stress Scale score

Further analysis controlling for maternal demographic factors revealed:

- **Higher well-being scores** were associated with **lower Leptin levels** in late pregnancy serum.
- **Higher depression risk scores** were associated with **lower IL-17A levels** in late pregnancy serum.

CONCLUSION

Well-being, stress, and depression risk are associated with an altered immune response during early and late pregnancy, which may contribute to the relationship between suboptimal psychological states and adverse pregnancy outcomes.

EVALUATING NIRSEVIMAB IMMUNISATION UPTAKE IN THE NATIONAL MATERNITY HOSPITAL (NMH): INSIGHTS FROM THE 2024/25 SEASON

Avril Dempsey, Informatics Pharmacist, NMH

The National Maternity Hospital
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NMH Research
Creating a better future for women and babies

BACKGROUND

- Respiratory Syncytial Virus (RSV) is a major seasonal cause of serious respiratory infections in infants, leading to significant global hospitalisations and deaths.
- Nirsevimab is a long-acting monoclonal antibody approved in 2023 in the EU to prevent RSV infections in infants.
- Other European countries (Spain, France, Luxembourg) report significant reductions in RSV hospitalisations after nirsevimab introduction.
- In June 2024, Ireland launched the RSV Immunisation Pathfinder Programme offering nirsevimab to newborns prior to hospital discharge.
- This service evaluation reviews nirsevimab uptake in the NMH setting and explores factors influencing immunisation rates.

AIMS

- **Primary Aim**: Determine the overall uptake rate of nirsevimab among eligible infants during the 2024 – 2025 RSV season.
- **Secondary Aims**: Examine socioeconomic, maternal, neonatal and operational characteristics associated with uptake.

METHODS

- Design: Service Evaluation
- Setting: NMH
- Period: 1st September 2024 – 28th February 2025
- Population: All eligible neonates whose parents provided consent, multiple births, stillbirths and neonatal deaths excluded
- Data Sources: MN-CMS & SAP Business Objects ®, The Pobal HP Deprivation Index
- Analysis: data processing – Microsoft Excel and Power BI
- Statistical analysis and visualisation – R (v4.4.3) – unadjusted odds ratios (OR) listed

Key Variables:

- Maternal: age, type of care, parity, delivery method, ethnicity, deprivation index
- Neonatal: gender, gestational age, birth weight, NICU admission, feeding status
- Operational: time of birth, day of the week of birth

CONCLUSION

- High uptake (87.6%) demonstrates strong acceptance of nirsevimab immunisation.
- However, disparities exist: lower uptake among disadvantaged, multiparous, and minority groups.
- This evaluation supports the use of electronic health records for real-time monitoring and targeted public health interventions.
- Findings offer actionable insights to inform national RSV immunisation strategies and ensure more inclusive and equitable coverage.

RESULTS

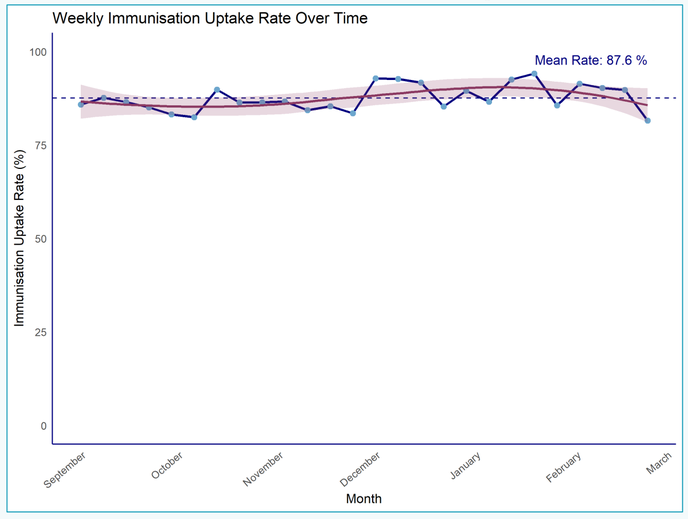
- Overall Uptake: **87.6%** (2839 of 3240 eligible infants)

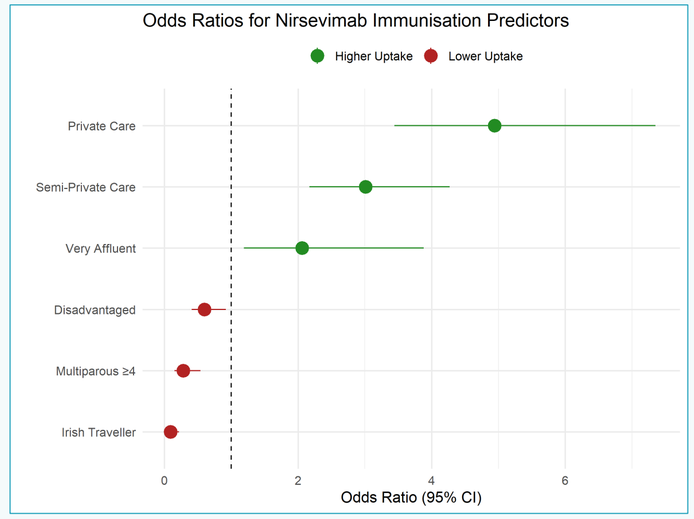
Factors Associated with **Higher Uptake**

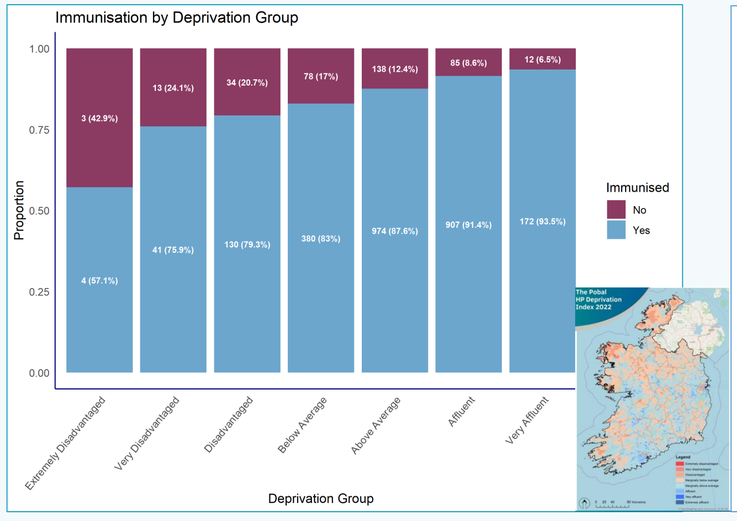
- **Maternal Age**: Mean age at delivery was higher in the immunised group (34.6, SD 4.8) than in the non-immunised group (32.6, SD 5.8).
- **Type of Care**: Private/Semi-private care was significantly associated with immunisation (OR private: 4.94, 95% CI 3.44-7.35).
- **Deprivation Index**: Affluent (OR: 1.63, 95% CI 1.24-2.15) and very affluent (OR: 2.06, 95% CI 1.19-3.88) mothers had higher uptake compared to the mothers in the above average group.

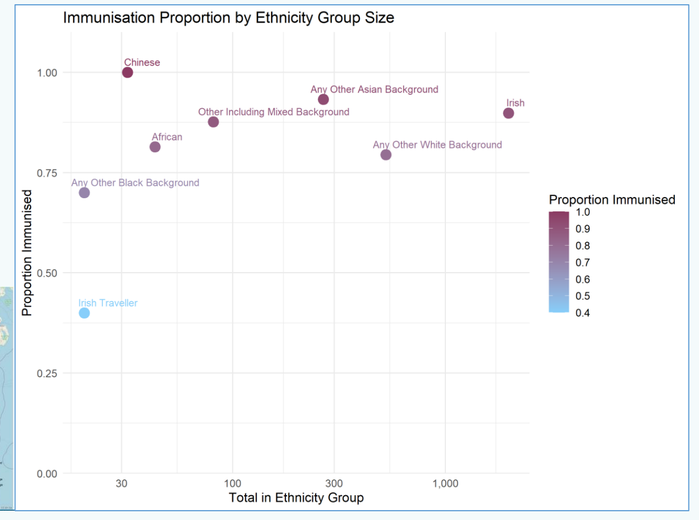
Factors Associated with **Lower Uptake**

- **Ethnicity**: Irish travellers (OR: 0.09, 95% CI 0.04-0.22) and "Any other white background" (OR: 0.44, 95% CI 0.34-0.56) were less likely to immunise compared to Irish mothers.
- **Parity**: Multiparous mothers were less likely to immunise (parity = 3, OR: 0.45, 95% CI 0.28-0.75, ≥4, OR: 0.28, 95% CI 0.15-0.54).









KNOWLEDGE OF AND ATTITUDES TOWARDS OVARIAN RESERVE TESTING AMONGST CONSULTANT OBSTETRICIAN & GYNAECOLOGISTS

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BACKGROUND

Since the introduction of publicly funded fertility treatment in September 2023, patients are being referred to regional fertility hubs for further investigations and managements. The demand for referrals to fertility services, along with the rising trend of ovarian reserve testing (ORT), including direct to consumer Anti-Mullerian Hormone (AMH) testing, has led to an increase in the number of patients being referred to general maternity hospitals for further diagnostic investigations[1]. Therefore, increasing the exposure of Consultant Obstetrician and Gynaecologists (O&G) to these fertility patients. Knowledge of fertility investigations and management amongst healthcare providers, including trainees in Obstetrics and Gynaecology (O&G) has been shown to be variable[2,3]. We wished to explore knowledge of and attitudes towards ORTs amongst O&G consultants working in Ireland.

AIMS

To assess the knowledge of and attitudes towards ovarian reserve testing amongst Consultant Obstetrician and Gynaecologists practicing in Ireland.

METHODS

We conducted a cross-sectional study using an online self-reported questionnaire of O&G consultants in Ireland between November 2024 and February 2025. Participants provided informed consent and responses were anonymous. The survey comprised of 20 questions; including respondent demographics, special interest areas and assessed their knowledge of and confidence of interpreting ORTs.

RESULTS

Forty-eight O&G consultants completed the survey, representing approximately 25% of O&G Consultants in Ireland[4]. Most respondents had completed their O&G training in Ireland (83%, n=40), most have been in practice for <10 years (66.6%, n=32), three quarters were female (75%, n=36) and over half were aged >40 years (65%, n=31).

Seventeen respondents (35%) reported having an interest in reproductive medicine. Eighty one percent of respondents reported that they were either very knowledgeable (n=14) or knowledgeable (n=25) about ORTs but only 31% (n=15) of respondents reported feeling very confident in their ability to counsel patients about fertility treatment options or fertility preservation.

Consultants with a special interest in fertility are significantly more likely to discuss egg freezing with a 27 year old woman with a new diagnosis of endometriosis (100% vs 82%, p=0.005) or a 33 year old woman who wished to delay childbearing (100% vs 72%, p=0.04)

Ninety two percent (n=44) felt that O&G trainees and consultants could benefit from more education in relation to fertility and diminished ovarian reserve.

CONCLUSION

Whilst most O&G consultants feel knowledgeable about ORTs, fewer feel confident counselling patients about fertility treatment options. Those without a specialist interest in fertility are less likely to discuss options of ORT and fertility preservation in women at risk of subfertility from endometriosis or women wishing to delay fertility. Majority of O&G consultants felt that trainees and consultants could benefit from more education in relation to fertility and diminished ovarian reserve. There is a need for a greater focus on reproductive medicine for current consultants and O&G trainees, the consultants of the future.

Figure 1: Likelihood of discussing oocyte freezing

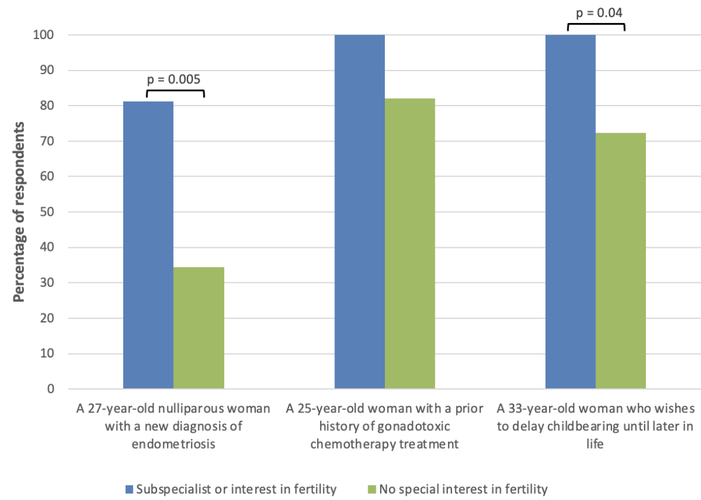

Table 1: Knowledge of AMH test indications/limitations

Which of the following can AMH predict?	Answer according to the literature	Respondents with subspeciality or interest in fertility		Respondents with no special interest in fertility		P value (Fisher's exact test)
Ability to conceive spontaneously	No	Yes 12.5%, n=2	No 87.5%, n=14	Yes 44.8%, n=13	No 55.2%, n=16	0.05
Ability to conceive following IVF treatment	Debated	Yes 50%, n=8	No 50%, n=8	Yes 51.7%, n=15	No 48.3%, n=14	0.99
Expected age of menopause	No	Yes 31.25%, n=5	No 68.75%, n=11	Yes 41.4%, n=12	No 58.6%, n=17	0.54
Expected number of oocytes obtained following controlled ovarian stimulation (for IVF or oocyte vitrification)	Yes	Yes 87.5%, n=14	No 12.5%, n=2	Yes 69%, n=20	No 31%, n=9	0.28
Oocyte quality	No	Yes 6.25%, n=1	No 93.75%, n=15	Yes 20.1%, n=6	No 79.3%, n=23	0.39
Likelihood of miscarriage	Debated	Yes 12.5%, n=2	No 87.5%, n=14	Yes 0%, n=0	No 100%, n=29	0.12
Recovery of ovarian function following gonadotoxic chemotherapy	Possible	Yes 68.75%, n=11	No 31.75%, n=5	Yes 66.7%, n=18*	No 33.3%, n=9*	0.99

*only 27/29 respondents with no special interest in fertility answered this question

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GENITAL HERPES MANAGEMENT – A REVIEW IN A MATERNITY HOSPITAL

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NMH Innovation
Towards a brighter future

BACKGROUND

Neonates can become infected with herpes simplex virus (HSV) at birth from contact with genital HSV. Maternal antiviral prophylaxis reduces viral shedding at delivery, thus reducing transmission to neonate. Risk is greatest when infection occurs for the first time in pregnancy, particularly close to delivery[1]. Laboratory confirmed genital herpes cases from 2023 were audited following concerns raised from postnatal areas regarding absent antiviral prophylaxis.

AIMS

1. To evaluate management of genital herpes in NMH and compare with standard of Rainbow clinic guidelines[1]
2. To Implement the BASSH/RCOG[2] guidelines released October 2024 which reduced the gestation for initiation of antiviral prophylaxis from 36 weeks to 32 weeks.

METHODS

Retrospective chart review of 10 adult lab confirmed HSV cases from 2023 (8 obstetric, 2 gynaecological) and 2 cases of neonatal HSV transmission. Management of these cases was compared with Rainbow Guidelines (2015). Findings were discussed with Consultant Microbiologist, AMS Pharmacist, Obstetric and Neonatal leads.

RESULTS

Obstetric:

- ❑ 3/8 did not receive prophylactic antiviral therapy at 36/40, 2/8 had incorrect treatment duration.
- ❑ 5/8 HSV infection not on 'diagnosis & problems' and no 'flag' on MN-CMS and intrauterine transfer had absent HSV history taking and neonatal HSV disease.
- ❑ 3/8 with active lesions and no swabs/antibodies taken.
- ❑ There was a lack of planning regarding rupture of membranes for high risk patients.

Neonates:

2/8 Paediatricians assumed incorrectly that maternal antiviral prophylaxis was given. There were some sampling errors and absent documentation of parent education.

QUALITY IMPROVEMENT PLAN

Arising from multi-disciplinary team discussions, the following recommendations were actioned:

- ✓ The Antimicrobial app was updated with treatment plan, algorithm and lab result guidance, aligned to BASSH/RCOG guidelines
- ✓ Newsletter was distributed to staff to signpost updates.
- ✓ Educational sessions and feedback was provided for Obstetric and Neonatal teams by clinical leads and Midwives/Nurses by IPC Midwife
- ✓ Poster for patients was developed and placed in OPD and FAU departments to encourage mothers to report symptoms, previous history.
- ✓ Neonatal team updated Neonatal guidance on Q-pulse.

Conclusion

Use of communication tools e.g. 'to do list', flag/alert on MN-CMS, 'diagnosis and problems', completion of booking assessment is essential to prompt antiviral prophylaxis and delivery planning. It is hoped this in addition to educational sessions provided and patient poster in OPD/FAU Departments will improve HSV management. A Neonatal HSV guideline is presently being updated on Q-pulse. A patient information leaflet on Herpes is being developed also.

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Normalisation of the Bump to Baby and Me Intervention Across Differing Participant Engagement Patterns – A Qualitative Analysis

Muirne O'Connor, Ellen Greene, Fionnuala McAuliffe, Helena Teede, Cristina Campoy, Christy Burden, Sharleen O'Reilly on behalf of the Impact Diabetes B2B Consortium

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BACKGROUND

- Gestational diabetes mellitus (GDM) is a complication that is characterised by elevated blood glucose levels that are first diagnosed during pregnancy and can increase the risk of adverse outcomes of pregnancy such as macrosomia, shoulder dystocia, large for gestational age infants and caesarean section [(1)].
- Dietary and physical activity interventions during pregnancy can promote healthy gestational weight gain and prevent the development of GDM [(2)].
- The extent to which participants engage with interventions can affect their outcomes.
- Evaluating intervention implementation can enhance the translation of research findings into practice by identifying the barriers and facilitators of the intervention, leading to improvements in healthcare services.

AIMS

- To identify the facilitators and barriers affecting the implementation of the Bump2Baby and Me (B2B&Me) intervention and the extent to which the intervention was embedded into participants' routine practices.
- To investigate how the normalisation of the intervention differs across different patterns of participant engagement.

METHODS

- B2B&Me was a trial of a mobile health and coaching intervention conducted in four sites in Dublin, Bristol, Granada and Melbourne among women at elevated risk of GDM [(3)].
- The B2B&Me intervention was conducted in pregnancy and up to 12 months postpartum and consisted of an app where participants communicated with a trained health coach who provided education, support and aided with goal setting.
- Semi-structured exit interviews were conducted at 12 months postpartum to assess participants' experiences in the study. A subset of 36 exit interviews from intervention participants were analysed using NVivo.
- A deductive analysis using Normalisation Process Theory (NPT) was conducted [(4)], followed by an inductive thematic analysis. Data was compared across differing patterns of participant engagement with the intervention. Engagement clusters include 'averagers' (engaged with all components of the app at average interaction levels), 'goalers' (engaged with the goal-setting aspect of the app more than the health coach) and 'immersers' (engaged positively with both the health coach and the goal setting aspect of the app) [(4)]

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RESULTS

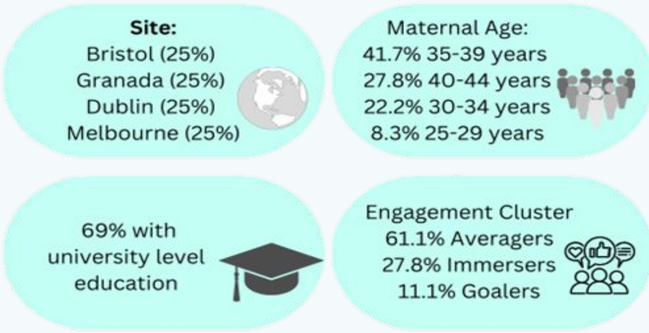

Figure 1. Participant characteristics

- The intervention's normalisation was evident in participants who continued healthy habits, like tracking diet and water intake.
- Figure 2 summarises key themes across engagement patterns.
- Personalised support and a trusting coach-participant relationship positively influenced normalisation, especially among averagers and immersers, who reported strong relationship with their coach. Goalers reported feeling a lack of a connection with their health coach.
- The app's ease of use and progress tracking helped maintain motivation, particularly for averagers and immersers, while goalers preferred self-guided learning and often felt unmotivated.
- A key barrier to engagement was limited time due to busy home and work schedules.

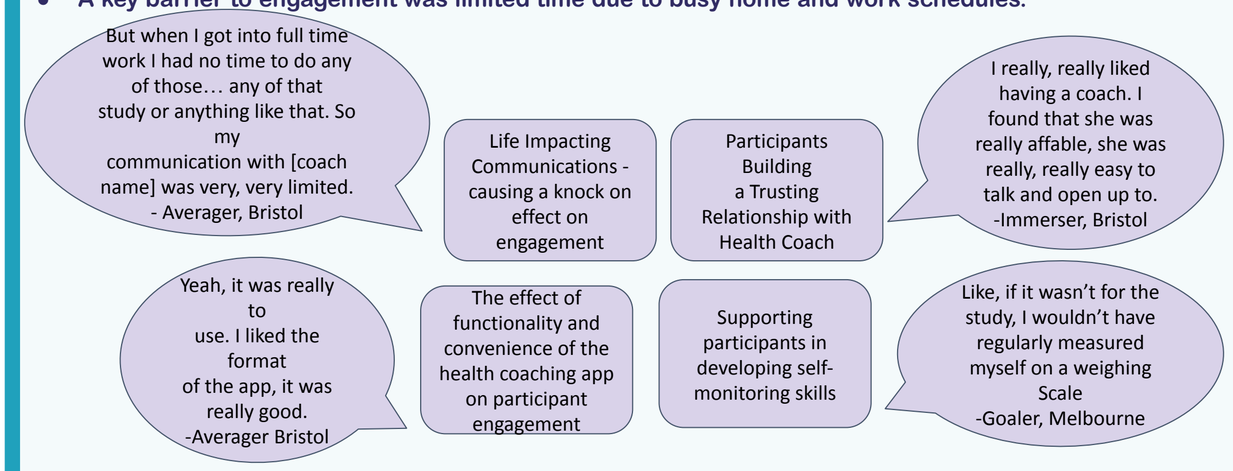

Figure 2. Main themes and supporting quotes

Conclusion

- While time constraints and competing priorities limited engagement for some participants, others found the coaching supportive in setting goals and adopting healthy behaviours that sometimes continued postpartum.
- Averagers and immersers valued strong coach relationships and personalised support, whereas goalers struggled with time pressures and weaker connections, emphasising the need for flexible, tailored mHealth interventions.

Associations between Diet Quality and Metabolic Markers in Pregnancy: Results from the MicrobeMom study

The National Maternity Hospital
Vita Gloriosa Vita ~ Life Glorious Life

NMH Research
Creating a better future for women and babies

Katy Hill[1], Aoife Davis[1], Sophie Callanan[1], Fionnula McAuliffe[1]
[1]UCD Perinatal Research Centre, School of Medicine, University College Dublin, National Maternity Hospital, Dublin, Ireland.

BACKGROUND

Maternal diet during pregnancy plays a critical role in shaping both maternal and foetal health outcomes, during pregnancy and postpartum. Dietary influences on maternal inflammatory and cardiometabolic biomarkers have been linked to various pregnancy outcomes. However, there is limited understanding of how diet specifically affects these biomarkers.

Alternate Healthy Eating Index for Pregnancy (AHEI-P)

The AHEI-P is a pregnancy-specific adaptation of the AHEI, designed to assess diet quality in relation to chronic disease risk.

It excludes alcohol and long-term multivitamin use, and includes calcium, iron, and folate—key nutrients in pregnancy.

It scores **10 components** (e.g., vegetables, fruit, white/red meat ratio, fats, fibre, key micronutrients), each out of **10**, for a total score out of **100.**

Cardiometabolic and Inflammatory Biomarkers

Pregnancy alters maternal metabolism to support fetal growth, leading to changes in biomarkers such as:

- Apolipoproteins (ApoA1, ApoB)
- Lipids (HDL, LDL, Total Cholesterol)
- Glucose
- Insulin
- CRP

Links between diet quality and these shifts remain underexplored.

AIMS

To examine the correlation between adherence to the Alternate Healthy Eating Index in pregnancy and how it aligns with inflammatory and cardiometabolic biomarkers in women from the MicrobeMom study.

METHODS

158 participants from the MicrobeMom RCT.

Venous blood samples & dietary data collected at **16 and 34 weeks.**

3-day food diaries were used to collect dietary data on each women.

AHEI-P scores were calculated using dietary data.

Fasting blood serum markers were obtained from blood samples.

Women were dichotomised based on scores above and below the median AHEI-P score for each visit.

T-tests (normally distributed data) and Man-Whitney U (non-normally distributed data) tests were used to assess for differences between groups.

Linear regression was carried out, controlling for **BMI**, **age, socioeconomic status, physical activity level and intervention** (late only)

RESULTS

Cohort characteristics:

Median (IQR) age - 33.38 (31.36, 35.79) years

Median (IQR) BMI - 24.41 (22.66, 27.09) kg/m^2

79.75% (n=126) of the participants were White Irish

84.62 % (n=132) of the participants had completed 3rd level education

Changes to metabolic markers in early pregnancy:

	Low AHEI-P score (≤51.78)		**High AHEI-P score** (>51.78)			**Linear Regression**	
Metabolites	N	Median (IQR)	N	Median (IQR)	P value	B coeff (95%)	P value
Haemoglobin (g/dL)	79	12.80 (12.20, 13.30)	78	12.70 (11.98, 13.10)	0.14	-0.014 (-0.026, -0.003)	**0.02**
Apolipoprotein B (g/L)	72	1.04 (0.87, 1.34)	71	0.95 (0.78, 1.13)	**0.03**	-0.007 (-0.012, -0.002)	**0.03**
Ratio Apo A: Apo B (g/L)	71	0.57 (0.46, 0.70)	71	0.49 (0.41, 0.61)	**0.02**	-0.003 (-0.006, -0.001)	**0.03**
HDL cholesterol (mmol/L)	72	1.46 (1.25, 1.75)	71	1.65 (1.35, 1.87)	**0.04**	0.006 (0.000, 0.012)	0.08

An **improved diet** in early pregnancy (higher AHEI-P) was significantly associated with **decreased haemoglobin**, **apo B and ratio apo A: apo B**, after adjusting for **BMI**, **age, socioeconomic status, physical activity level,** as well as **increased HDL cholesterol** concentrations.

Changes to metabolic markers in late pregnancy:

	Low AHEI-P score (≤51.88)		**High AHEI-P score** (>51.88)			**High AHEI-P (compared to Low AHEI-P)**	
Metabolite	N	Median (IQR)	N	Median (IQR)	P value	B coeff (95%)	P value
Insulin (µU/mL)	67	9.70 (7.10, 12.60)	61	8.00 (5.55, 10.90)	**0.005**	-2.262 (-4.398, -0.126)	0.09

Insulin significantly **decreased** in women with a **high AHEI-P** score in **late** pregnancy.

Conclusion

Given the associations reported in other studies between metabolic biomarkers with pregnancy outcomes, it may be possible that dietary improvement may contribute to improved pregnancy outcomes. This study determined that a **better adherence to the AHEI-P** may be associated with **more favourable cardiometabolic profiles** in early and late pregnancy. This supports the hypothesis that the maternal diet influences metabolic and inflammatory markers during pregnancy and highlights the importance to diet quality during pregnancy.

Future research should aim to investigate:

The changes seen to cardiometabolic and inflammatory markers in an at-risk pregnant population.

Determine directly how the AHEI-P alters maternal and foetal outcomes in both healthy and at-risk populations.

Nutritional status of pregnant women with iron deficiency anaemia: findings from the IronMother study

Emer Bolger, Dr Sophie Callanan, Prof. Fionnuala McAuliffe

NMH Research
Creating a better future for women and babies

The National Maternity Hospital
Vita Gloriosa Vita ~ Life Glorious Life

UCD DUBLIN

UCD Perinatal Research Centre

BACKGROUND

Iron deficiency anaemia (IDA) (haemoglobin level <11 g/dL before 12 week's gestation and <10.5 g/dL from 13 week's gestation onwards) is an international health concern that affects more than 1.2 billion people, with pregnant people particularly at risk. IDA in pregnancy is associated with severe maternal consequences, including postpartum haemorrhage, preterm labour, caesarean section and increased rate of maternal mortality. Inadequate dietary intake is one of the leading causes of IDA. Few studies have investigated dietary intakes among pregnant women with IDA.

AIMS

1. To explore the dietary intakes of Irish pregnant women with IDA recruited as part of the IronMother trial.
2. To investigate the adherence of Irish pregnant women with IDA to European nutrient requirements.
3. To assess the associations of dietary intakes with blood biomarkers in Irish pregnant women with IDA

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METHODS

Comparative prospective observational study of Pregnant women from the IronMother cohort study (n=143) between 14-34 weeks gestation with Hb levels <10.5g/dL and ferritin levels <30µg/L and dietary data available.

Data collection:

Food Frequency Questionnaire

Maternal Bloods between 14 and 34 weeks gestation

Blood biomarkers

Maternal Characteristics

- BMI
- Weight
- Smoking Status
- Socioeconomic status
- Race
- Parity

Haemoglobin | Ferritin | B12 | Folate

Nutrient intakes were compared to European Food Safety Authority (EFSA) reference values

EUROPEAN FOOD SAFETY AUTHORITY

Analysis: Descriptive statistics including T-tests, Non-Parametric tests such as Chi-square tests and Mann Whitney U tests
Performed using SPSS.
A two-sided p-value of <0.05 indicated statistical significance for all analyses.

RESULTS

Figure 1 illustrates nutrient guideline adherence across trimesters. Key findings include:

- **Vitamin D**: significantly more women in **T2** met EFSA recommendations compared to **T3** *(7.1% vs 0.9%)*
- **Thiamin**: Adherence was **higher in T3**, with 100% meeting EFSA guidelines compared to 92.9% in **T2**
- **Niacin**: Similarly, **T3** showed better adherence (100%) than **T2** (96.4%)

Figure 1. Adherence of IronMother participants to EFSA Guidelines

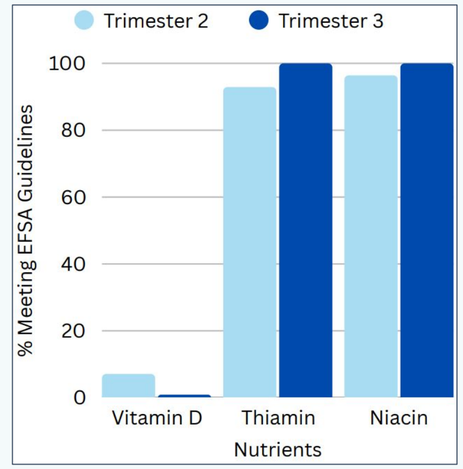


Table 1 Correlations between nutrient intakes and blood markers

Nutrient Intake

Blood Biomarkers	Fibre	Calcium	Zinc	Folate
Haemoglobin	0.164 (0.051)	0.188 (0.025)	0.171 (0.041)	0.137 (0.103)
B12	0.166 (0.049)	0.144 (0.087)	0.129 (0.125)	0.208 (0.013)
Folate	0.112 (0.183)	0.114 (0.175)	0.073 (0.390)	0.166 (0.048)

*Results reported as r (p-value), significant correlations are highlighted in pink

Table 1 presents significant positive correlations found between:

1. Fibre intake and serum vitamin B12
2. Calcium intake and serum haemoglobin
3. Zinc intake and serum haemoglobin
4. Folate intake and serum vitamin B12
5. Folate intake and serum folate

Conclusion

Greater focus is needed on: Iron bioavailability and absorption as well as nutrient interactions within meals. Compliance with EFSA guidelines varied by trimester, suggesting dietary habits shift throughout pregnancy.

Key recommendations:

- Increase awareness of IDA in pregnancy across healthcare settings
- Ensure access to dietitian-led counselling from early pregnancy
- Conduct further research on post-intervention dietary habits

Side-effects and Compliance with Alternate Day Oral Iron versus Daily Dosing when Treating Iron Deficiency Anaemia in Pregnancy

Fiona O'Toole[1], Grace Mealy[2], AnnMarie Murphy Cruse[1], Joan Fitzgerald[1], Fionnuala M McAuliffe[2,1], Jennifer M Walsh[1]

1. National Maternity Hospital, Dublin, Ireland.
2. UCD Perinatal Research Centre, Dublin, Ireland

IronMother Trial

IronMother is a randomised controlled trial of daily versus alternate day oral iron for the treatment of iron deficiency anaemia in pregnancy.[1] The objective of this analysis was to compare the incidence of side-effects and rates of compliance with study medication between the two arms.

This RCT was performed as there is insufficient evidence on optimal dosing in pregnancy The sample size was calculated as 184, Type 1 error rate of 0.025, a power of 90 %, SD 0.83 g/dL… 92 per arm. Our non-inferiority margin was −0.4 g/dL. Our secondary outcomes included analysis of tolerance and compliance.

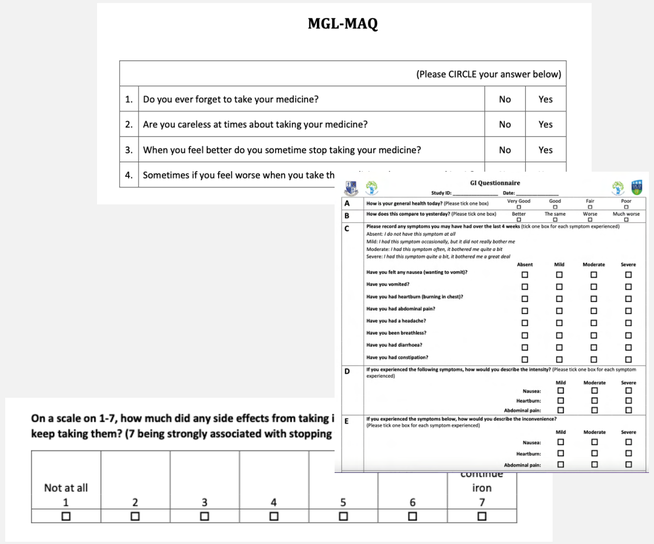
P	Singletons, 14+0 – 34+0 gestation, Hb <10.5g/dL, Ferritin <30µg/L
I	Alternate day Galfer® (305mg ferrous fumarate) x 4 weeks
C	Daily Galfer® (= 100mg elemental iron) x 4 weeks
O	Change in Hb from baseline to 4-week visit

Secondary Analysis

Data complete for 193 participants

- 97 intervention (Alternate Day Galfer®)
- 96 control (Daily Galfer®)

Compliance was tested through both validated medication adherence questionnaire[2], in addition other questionnaires designed as study tools. Formal capsule count of returned blister packets was undertaken when available.
Rates and severity of side-effects experienced were collected through validated gastrointestinal symptom questionnaire[3]. Data was taken on participants subjective assessment of the impact of side-effects on their compliance with their dosing regimen.



MGL-MAQ

	(Please CIRCLE your answer below)		
1.	Do you ever forget to take your medicine?	No	Yes
2.	Are you careless at times about taking your medicine?	No	Yes
3.	When you feel better do you sometime stop taking your medicine?	No	Yes
4.	Sometimes if you feel worse when you take th		

GI Questionnaire

Study ID: _____ Date: _____

A	How is your general health today? (Please tick one box)	Very Good ☐	Good ☐	Fair ☐	Poor ☐
B	How does this compare to yesterday? (Please tick one box)	Better ☐	The same ☐	Worse ☐	Much worse ☐

C — Please record any symptoms you may have had over the last 4 weeks (tick one box for each symptom experienced)
Absent: *I do not have this symptom at all*
Mild: *I had this symptom occasionally, but it did not really bother me*
Moderate: *I had this symptom often, it bothered me quite a bit*
Severe: *I had this symptom quite a bit, it bothered me a great deal*

	Absent	Mild	Moderate	Severe
Have you felt any nausea (wanting to vomit)?	☐	☐	☐	☐
Have you vomited?	☐	☐	☐	☐
Have you had heartburn (burning in chest)?	☐	☐	☐	☐
Have you had abdominal pain?	☐	☐	☐	☐
Have you had a headache?	☐	☐	☐	☐
Have you been breathless?	☐	☐	☐	☐
Have you had diarrhoea?	☐	☐	☐	☐
Have you had constipation?	☐	☐	☐	☐

D — If you experienced the following symptoms, how would you describe the intensity? (Please tick one box for each symptom experienced)

	Mild	Moderate	Severe
Nausea:	☐	☐	☐
Heartburn:	☐	☐	☐
Abdominal pain:	☐	☐	☐

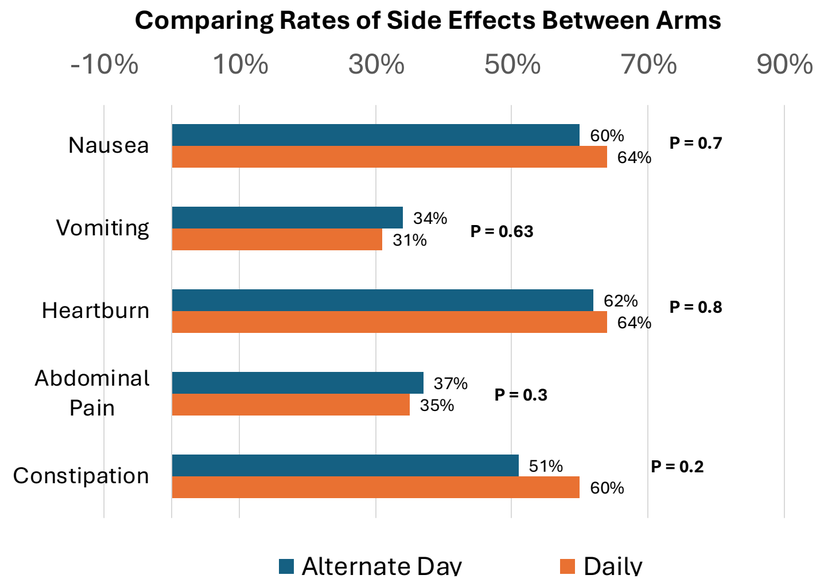
E — If you experienced the symptoms below, how would you describe the inconvenience? (Please tick one box for each symptom experienced)

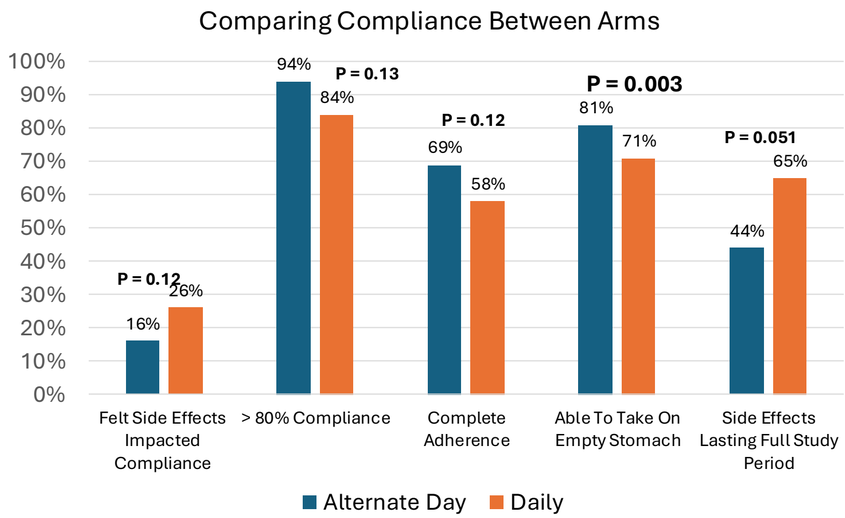
	Mild	Moderate	Severe
Nausea:	☐	☐	☐
Heartburn:	☐	☐	☐
Abdominal pain:	☐	☐	☐

On a scale on 1-7, how much did any side effects from taking i keep taking them? (7 being strongly associated with stopping

Not at all 1	2	3	4	5	6	Continue iron 7
☐	☐	☐	☐	☐	☐	☐

Results





Conclusions

Limitations

This was an RCT designed to assess non-inferiority based on Hb rise. Most of these differences in data did not reach statistical significance.

However, they suggest better tolerance and adherence to alternate day iron compared to daily iron in pregnancy to treat iron deficiency anaemia.

References:
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Investigating Haemoglobin Status and Nutritional Intakes of Pregnant Women Using the FIGO Nutrition Checklist

Máire Gallagher[1], Lucy Murphy[1], Fionnuala McAuliffe[1]

1. UCD Perinatal Research Centre, The National Maternity Hospital, Dublin

BACKGROUND

Iron deficiency anaemia (IDA) is the most common micronutrient deficiency in pregnancy, linked to adverse outcomes. Poor maternal nutrition is a key modifiable risk factor, yet no standardised screening exists in Irish antenatal care.

The FIGO Nutrition Checklist is a brief tool designed to identify nutritional risk. This study evaluated its use in pregnant women attending the National Maternity Hospital, Dublin.

AIMS

Assess **nutritional risk in pregnancy** using the **FIGO Nutrition Checklist.**

Explore **associations** between **nutritional risk**, **haemoglobin status, and delivery outcomes.**

METHODS

A c**ross-sectional observational study** was conducted at the National Maternity Hospital, Dublin.

Pregnant women **(n = 301)** attending routine antenatal visits completed the **FIGO Nutrition Checklist.**

Clinical records provided data on **haemoglobin levels, BMI, supplement use, and delivery outcomes.**

Descriptive statistics, t-tests, and chi-square tests were used to explore associations.
Ethical approval was granted by the NMH Ethics Committee (EC20.2019).

RESULTS

75.4% of participants were classified as **nutritionally at risk** (≥1 "no" response on the FIGO Checklist).

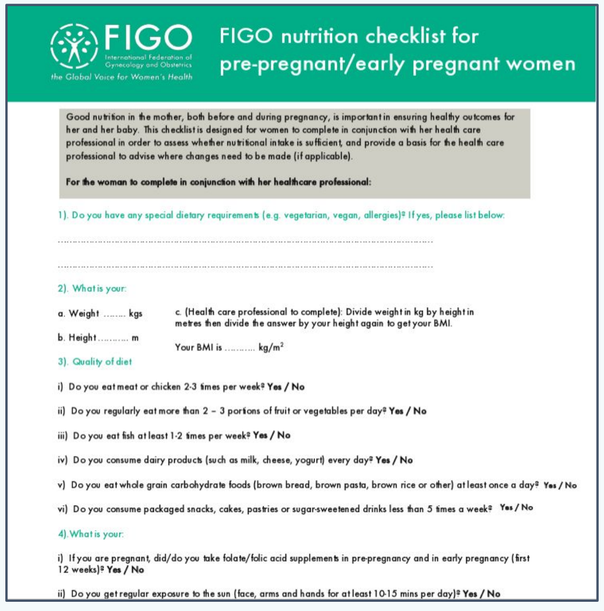
Common risks included **low fish intake, frequent processed food,** and low intake of **plant proteins**.

26.2% had a BMI ≥30 kg/m²; **73.1%** reported supplement use.

Haemoglobin levels declined significantly from booking to 28 weeks **(p < 0.001)**; anaemia prevalence was low overall.

No significant associations were found between **nutritional risk** and **anaemia** or **delivery outcomes.**

22% of women were referred to a dietitian, mostly for high BMI or gestational diabetes.



FIGO nutrition checklist for pre-pregnant/early pregnant women

Good nutrition in the mother, both before and during pregnancy, is important in ensuring healthy outcomes for her and her baby. This checklist is designed for women to complete in conjunction with her health care professional in order to assess whether nutritional intake is sufficient, and provide a basis for the health care professional to advise where changes need to be made (if applicable).

For the woman to complete in conjunction with her healthcare professional:

1). Do you have any special dietary requirements (e.g. vegetarian, vegan, allergies)? If yes, please list below:

.....

.....

2). What is your:

a. Weight ..... kgs

b. Height ..... m

c. (Health care professional to complete): Divide weight in kg by height in metres then divide the answer by your height again to get your BMI.

Your BMI is ..... kg/m²

3). Quality of diet

i) Do you eat meat or chicken 2-3 times per week? **Yes / No**

ii) Do you regularly eat more than 2 – 3 portions of fruit or vegetables per day? **Yes / No**

iii) Do you eat fish at least 1-2 times per week? **Yes / No**

iv) Do you consume dairy products (such as milk, cheese, yogurt) every day? **Yes / No**

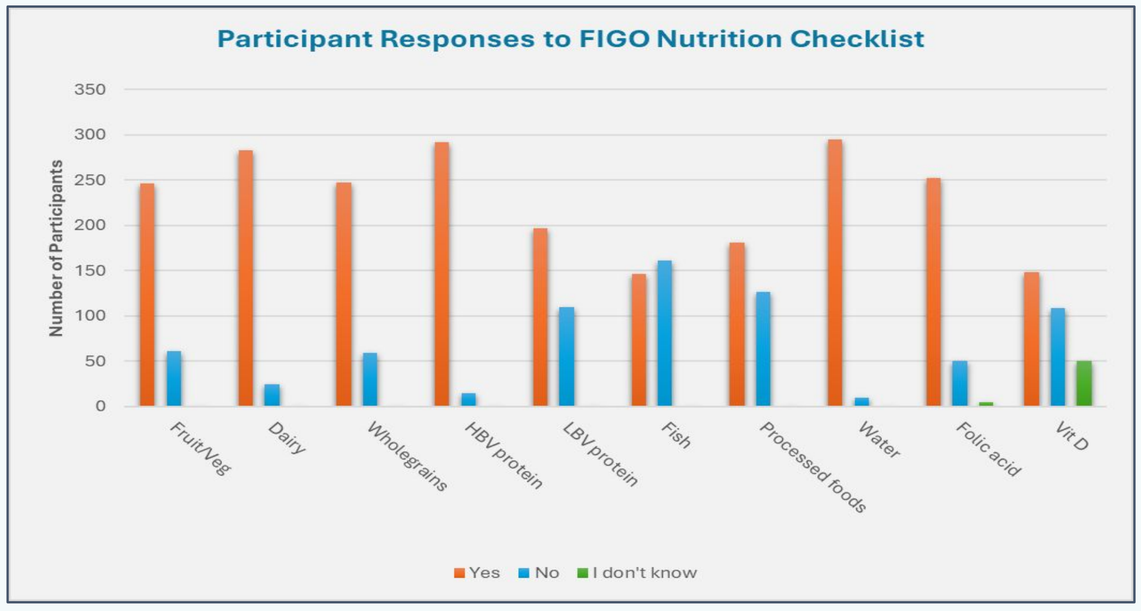
v) Do you eat whole grain carbohydrate foods (brown bread, brown pasta, brown rice or other) at least once a day? **Yes / No**

vi) Do you consume packaged snacks, cakes, pastries or sugar-sweetened drinks less than 5 times a week? **Yes / No**

4). What is your:

i) If you are pregnant, did/do you take folate/folic acid supplements in pre-pregnancy and in early pregnancy (first 12 weeks)? **Yes / No**

ii) Do you get regular exposure to the sun (face, arms and hands for at least 10-15 mins per day)? **Yes / No**



CONCLUSION

The FIGO Nutrition Checklist flagged a **high prevalence of nutritional risk** among pregnant women in routine antenatal care, primarily linked to **suboptimal dietary patterns.**

Although no statistically significant associations were observed with anaemia or delivery outcomes, the checklist demonstrated clinical value as a **low-burden screening tool.**

Its use may facilitate more **appropriate** and **timely dietetic referrals**, supporting **early intervention** and enhancing **nutrition-focused preventive care in maternity** services.

Eat-Lancet Planetary Health Improves Pregnancy Outcome For Women At High Risk Of Preterm Birth

Gillian Corbett, Brian McDonnell, Lucy Murphy, Aoife Davis, Sophie Callanan, Alexander Douglass, Ricardo Segurado, Siobhan Corcoran, Eileen O'Brien, Fionnuala McAuliffe

BACKGROUND

Pregnancy at high-risk of Preterm Birth

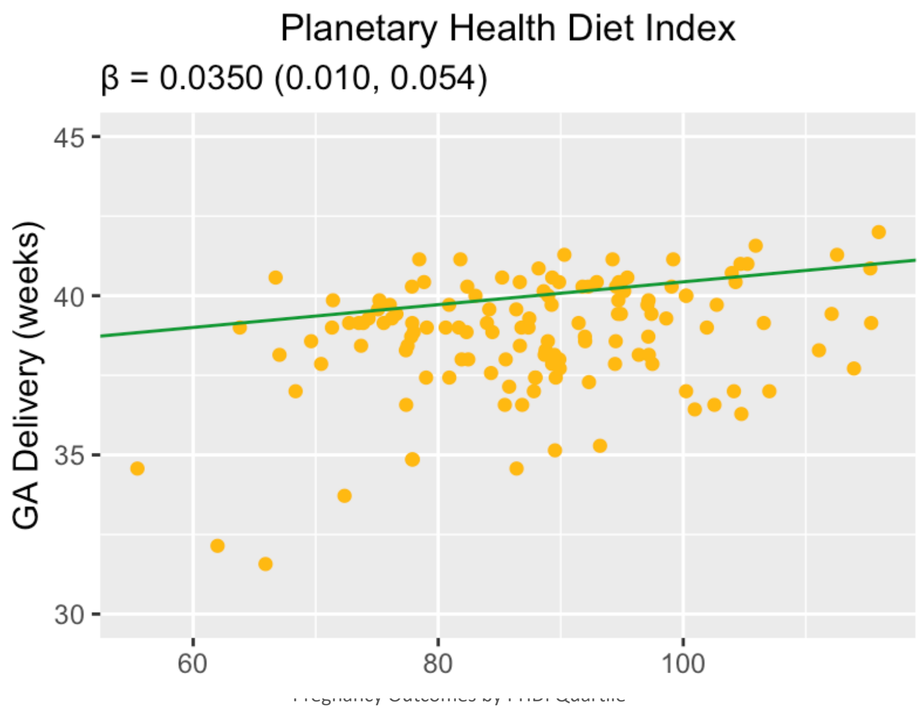
The Planetary Health Diet (PHD) is recommended by the EAT-Lancet commission as sustainable food pattern for optimal human and planetary health.

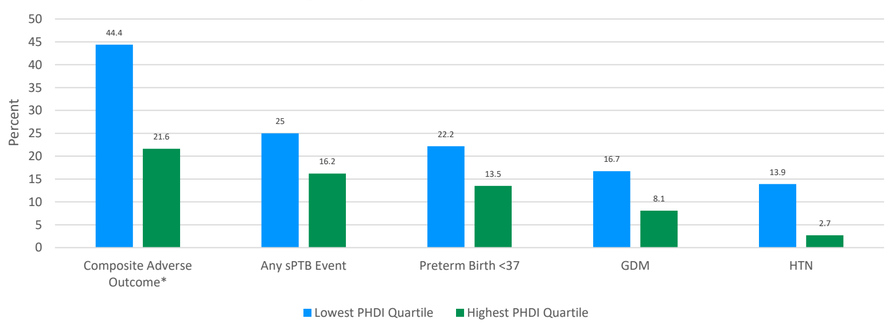
AIMS

This study's objective was to examine how PHD affects pregnancy outcome for those high-risk of sPTB.

METHODS

This was a prospective dietary analysis for two early pregnancy cohorts: women high- risk vs low-risk of sPTB. Dietary intake was assessed at 16 weeks' gestation using food frequency questionnaires. PHD Index (PHDI) was calculated and correlated with pregnancy outcomes. Ethics approved by the Institutional Review Board and funding by Science Foundation Ireland and NMH Foundation.





RESULTS

There were 776 women included in the study (142 high-risk, 634 low-risk sPTB). The high-risk group had prior sPTB or mid-trimester loss (60.5%), cervical surgery (31.0%) or uterine anomalies (8.5%). They attended a dedicated sPTB service, where 68.3% had interventions to reduce risk of sPTB.

For women at high-risk of sPTB, there was positive correlation between PHDI score and delivery gestation on adjusted regression analysis (ß-coefficient 0.02 days (95% CI 0.01-0.05)/PHDI-unit-increase). The highest quartile of PHDI had longer gestation at delivery (median interquartile range (IQR) 39.4 (2.4) vs 38.9 (2.4) weeks, p=0.022) and lower rate of composite adverse pregnancy outcome (sPTB, GDM or HTN event) compared to the lowest quartile group (21.6% vs 44.4%, p=0.039).

Conclusion

For women at high-risk of sPTB, adherence to the Planetary Health Diet is associated with longer gestation at delivery and lower composite adverse pregnancy outcomes. The Planetary Health Diet should be offered to women at high-risk of sPTB, as an adjunct to standard preventative care.

NEOFEED-COS: PROTOCOL FOR A CORE OUTCOME SET FOR ORAL FEEDING INTERVENTIONS IN PRETERM INFANTS

Zelda Greene[1,2], Roberta McCarthy[1], Deirdre Sweetman[1], Shirley Moore[1],Julie Regan[2]
[1]National Maternity Hospital Dublin, [2]Trinity College Dublin

BACKGROUND

Oral feeding is a primary discharge criteria for preterm infants in neonatal care[1]. Establishing oral feeding is complex[2]. Therapeutic oral feeding interventions exist but definitions of how oral feeding success is measured and reported are often limited, e.g. weight and volume[3,4]. This affects clinical outcomes and research interpretation.

We have previously called for researchers conducting randomised trials for oral feeding interventions in NICU, to clearly define the outcomes to be measured, how they will be measured and time points for measurements[5].

A Core Outcome Set (COS) is an agreed standardized set of outcomes that should be measured and reported.

AIM

To develop a protocol for a COS to provide clinicians and researchers with minimum standards for measuring oral feeding success in NICU.

This will be called NEOFEED-COS.

Proposed Methodology

The COS development will comprise stages based on established methodology (COMET[7]; COS-STAD[8]) see Figure 1. The project will have full ethical approval.

Conclusion

The development and use of 'core outcome sets' have been endorsed as a means to reduce outcome heterogeneity in research and to increase the relevance of research through the involvement of key stakeholders in its development[6-8].

By providing an agreed set of outcomes for oral feeding in neonatal units, clinicians and researchers can unify their approach.

Having a basic agreed standard for oral feeding success in NICU, which captures all aspects of oral feeding will ensure standard outcome measures for clinical trials. It will also drive training and education for staff working in neonatal units.

Fig 1: Proposed COS Methodology

1. Systematic Review

- To identify current oral feeding outcomes reported in neonatal clinical trials, how they are measured and time-points for measurement using COSMIN[9] guidelines.
- The systematic review protocol will be registered in the PROSPERO Register[10]

2. Register COS Protocol

- The COS will be registered in the COMET[11] database
- The Protocol for the COS will be written in accordance with the COS-STAP [12]

3. Stakeholder Focus Groups

- To identify meaningful outcomes that are important to clinicians and families.
- Stakeholders will include families [13]

4. Merging Outcomes

- To merge outcomes identified by the systematic review and stakeholder focus groups to form the first draft of outcomes to go forward to the Delphi Process[14]

5. Delphi Survey Process

- A group-based process to attain consensus among experts, conducted online.
- Anonymous voting on each outcome will take place after discussion and debate.
- The survey process will be conducted in accordance with guidelines from RAND[15]

6. Consensus Meeting

- Final agreement on core outcomes, their definitions, measurement and time-points of measurement for the final NEOFEED-COS.
- Findings will be reported using guidelines from COS-STAR [16]

References on request to zelda.greene@nmh.ie

Do semen parameters in adolescent and young adult (AYA) patients remain stable post-thaw, and can threshold semen parameters be established for cryopreservation?

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BACKGROUND

Sperm cryopreservation in adolescent boys with malignancy presents challenges due to lower sperm quality parameters and a lack of established reference values. Ethical and practical barriers limit research, complicating fertility counselling. Despite this, even young post-pubertal boys exhibit spermatogenesis, highlighting the importance of fertility preservation. While adult cryopreservation demonstrates over 97% motility recovery post-thaw, further research is required to develop standardised guidelines for adolescents.

AIMS

To evaluate post-thaw sperm concentration and motility in adolescent and young adult (AYA) males who underwent sperm cryopreservation prior to gonadotoxic therapy. This study also aims to explore whether threshold semen parameters can be identified to guide clinical decision-making and inform counselling regarding future fertility options, including ICSI.

METHODS

Study design: A retrospective review was conducted at a tertiary fertility clinic in Ireland (2018–2024), analysing 91 males aged 12–19 years who banked sperm prior to gonadotoxic treatment.

Sperm cryopreservation and analysis: Samples were cryopreserved in 0.5mL straws, with post-thaw analysis assessing sperm viability. Pre- and post-thaw sperm parameters, including motility (% motile sperm) and concentration (million per ml; M/ml), were evaluated according to WHO criteria.

Statistical analysis: Data analysis was performed in GraphPad Prism (V10). Wilcoxon matched-pairs signed rank test was used to compare semen analysis parameters in individuals pre and post freeze-thaw; $p<0.05$ was considered significant.

Table I: WHO criteria for threshold semen and sperm parameters.

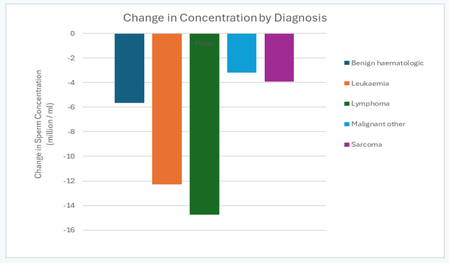
Semen parameter	WHO 2010	WHO 2022
Semen volume (mL)	1.5 (1.4-1.7)	1.4 (1.3-1.5)
Total sperm count (10^6 per ejaculate)	39 (33-46)	39 (35-40)
Overall motility (%)	40 (38-42)	42 (40-43)
Progressive motility (%)	32 (31-34)	30 (29-31)
Non-Progressive motility (%)	1	1 (1-1)
Immotile sperm (%)	22	20 (19-20)
Vitality (%)	58 (55-63)	54 (50-560
Normal forms (%)	4 (3-4)	4 (3.9-4)

RESULTS

Participants had a range of oncological and benign conditions, including leukaemia (11%), lymphoma (34.1%), sarcoma (20.9%), other malignancies (23.1%), benign haematological (6.6%) and benign immune (4.4%) disorders (Fig 1A). Complete data was available for 49 patients, and showed considerable variability in sperm concentration pre-thaw (16.7±52.7 M/mL) and post-thaw (8.6±24.2 M/mL; Fig 1B), with an overall moderate decrease post-thaw ($p=0.056$). Attenuated concentration post-thaw was most apparent in samples derived from patients diagnosed with leukaemia, with a mean reduction of -12.27±15.37 M/mL (range -30 to -2.8 M/mL; Fig 1A). Sperm motility showed a significant decrease ($p<0.001$) in the thawed sample (31.04±22.1%) compared to the fresh prepared sample (59±30.6%; Fig 1C).

A

Dx Class	N	Mean	Median	SD	Min	Max
Benign haematologic	3	-5.67	-7.8	4.59	-8.8	-0.4
Leukaemia	3	-12.27	-4	15.37	-30	-2.8
Lymphoma	17	-14.73	-2	48.22	-200	11.4
Malignant other	15	-3.19	-1	7.29	-24	7.7
Sarcoma	11	-3.92	-1.7	4.32	-12	1



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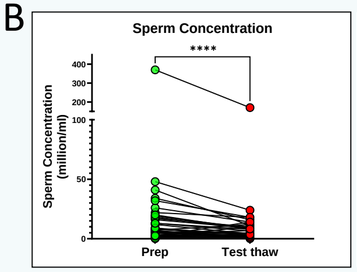

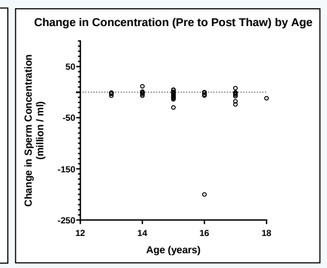

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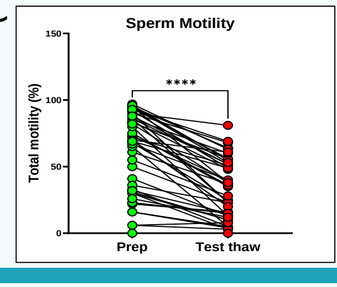

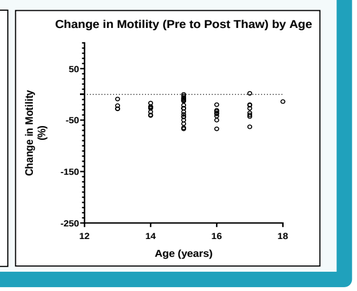

Figure 1: Sperm parameters pre and post thaw in male AYA patients. (A) Diagnoses. (B, C) Change in sperm concentration and motility. ****p<0.0001

Conclusion

This study highlights significant variability in post-thaw semen parameters among adolescent and young adult (AYA) males, with a marked reduction in motility (mean decline from 59% to 31%, $p<0.001$). While sperm concentration showed a moderate decrease, it did not reach statistical significance. These findings provide insight into the need for dedicated andrology guidelines tailored to the AYA population. Importantly, post-thaw analysis offers measurable data to support realistic fertility counselling and discussions around future use of assisted reproductive technologies such as ICSI. This is particularly valuable in survivorship planning and in setting expectations for patients and families during fertility preservation consultations.

Growth and Feeding Among Infants Born at Different Stages of Prematurity

The National Maternity Hospital
Vita Gloriosa Vita ~ Life Glorious Life

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NMH Research
Creating a better future for women and babies

BACKGROUND

Preterm birth (<37 wks gestation) is one of the leading causes of neonatal morbidity. Most studies surrounding preterm birth focus on infants born very preterm, <32 wks gestational age (GA) due to their higher risk of health complications. However, growing evidence shows that infants born moderate (32-33^{+6} wks) and late (34-36^{+6} wks) preterm (MLP) also are at risk and require additional feeding and nutritional support due to their increased needs and immature feeding ability, compared with infants born at term. Infants born MLP account for ~85% of preterm births globally but remain under-represented in research.

AIMS

Describe the demographics, feeding practices and rate of growth faltering (GF) among infants born preterm during their inpatient (IP) stay and outpatient (OP) follow-up, comparing the data across 3 sub-groups based on GA: very preterm (VP), moderate preterm (MP) and late preterm (LP).

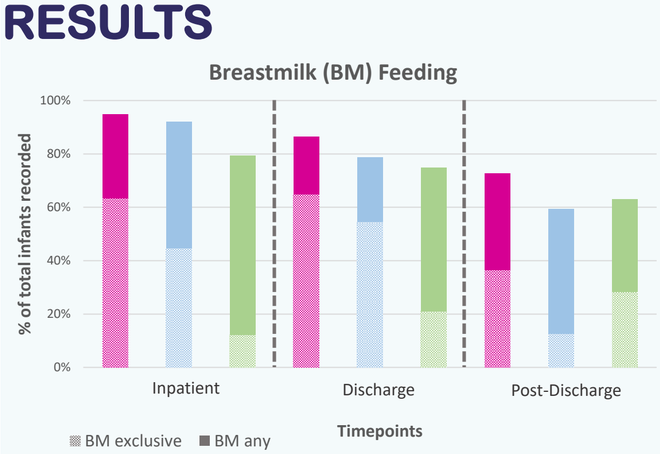
METHODS

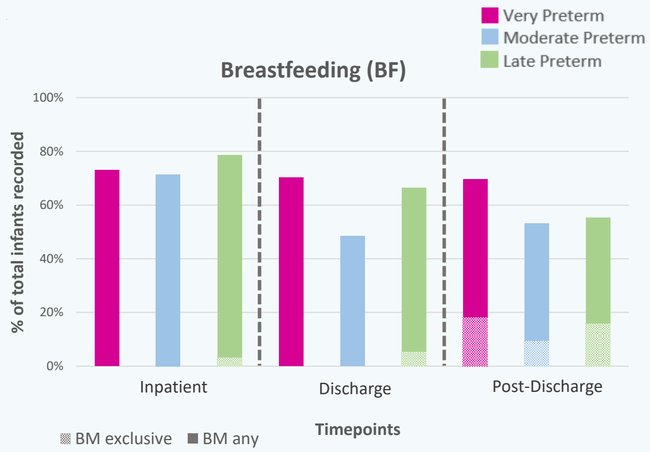
Setting
- Single centre retrospective cohort study.
- Tertiary – IP (neonatal or postnatal unit) and OP (Baby Clinic).

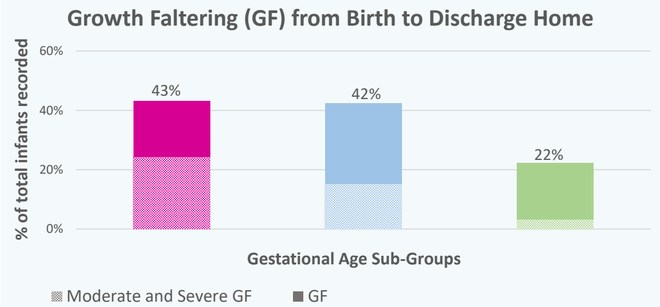
Population - Infants
- Born Jan-Dec 2023: VP (<32w); MP (32-33w); LP (34-36w)
- Admitted as IP ± attended OP clinic.

Data
- Collected from electronic patient records (MNCMS).
- Demographics, anthropometry, feeding and growth as IP ± OP.

RESULTS







GF defined as a drop in weight z-score ≥0.8; moderate to severe GF ≥1.2

- VP infants have the highest rates of BM feeding and BF at almost every time point.
- MP infants consistently show the lowest rates of BF.
- GF rates are similar in both VP and MP infants.

Conclusion

There are clear variations in outcomes across the three sub-groups of prematurity.

The higher rates of BM feeding and BF among infants born VP compared with infants born MP, may be a reflection of the additional attention given to infants born VP and the efforts of our PRIME/ PRIME-B multidisciplinary quality improvement initiative focused on promoting BM and BF in the neonatal unit particularly.

Infants born MP consistently show the lowest rates of BF - as an IP, at discharge, and as an OP. Infants born MP also have rates of GF that more closely match infants born VP than LP. These findings suggest that infants born MP may be an overlooked group.

Given their low BF rates and high GF risk, additional support and interventions seem warranted for infants born MP to improve feeding practices and growth outcomes.

The National Maternity Hospital
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INTRA-OPERATIVE BLOOD PRESSURE MANAGEMENT IN CAESAREAN SECTION FOR PRE-ECLAMPSIA

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NMH Research
Creating a better future for women and babies

BACKGROUND

Pre-eclampsia (PET) is a hypertensive disorder of pregnancy associated with considerable morbidity and mortality for both mother and foetus. The initial goal of treatment is to lower the blood pressure to below 140/90 mmHg. Both ACOG and NICE recommend that this be done gradually, recommending a reduction of 15-25% within 24 hours, and emphasizing that rapid reduction can negatively affect maternal circulation, uteroplacental perfusion, and foetal health[1,2].

Where caesarean delivery is required, central neuraxial anaesthesia is the preferred method but commonly causes significant hypotension secondary to sympathetic vasomotor blockade. Although women with PET have been shown to develop less hypotension after spinal anaesthesia than healthy women undergoing caesarean section[3] , an abrupt decrease in maternal blood pressure is especially undesirable in PET where placental perfusion is already impaired.

We aim to maintain the avoid a drop in systolic blood pressure (SBP) to <80% of baseline[4]. Phenylephrine is the recommended first-line vasopressor to reverse the maternal haemodynamic changes induced by spinal anaesthesia[4]. AAGBI cautions that the dose of phenylephrine required may be lower than in women without PET and advise that if a prophylactic infusion is used, it should be started at a lower dose with the effect on blood pressure monitored carefully.

AIMS

Our aim was to assess how our current practice complies with with the recommendation to avoid a fall in SBP to <80% of pre-operative baseline.

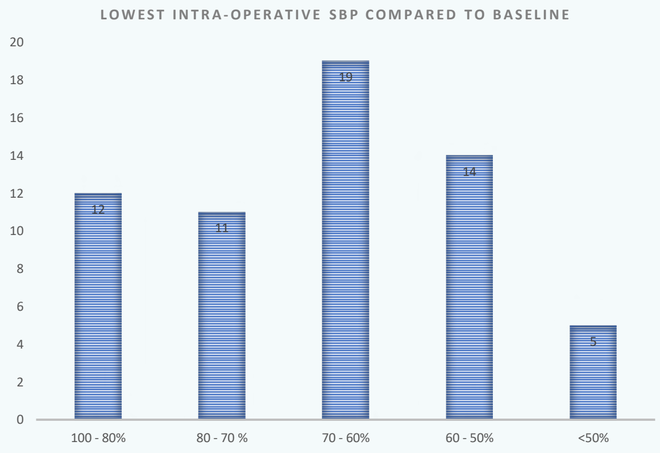
METHODS

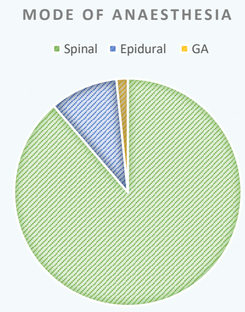
We conducted a retrospective chart review of 62 caesarean deliveries performed between January and December 2023 for which PET was the primary indication for delivery, using the electronic health record, NM-CMS.

Statistical analysis looked at the degree of neuraxial-induced hypotension and compared those who received phenylephrine with those who did not.

RESULTS

- 80.6% of cases were emergencies.
- SBP was maintained within 20% of baseline in 19.6% of cases overall.
- Phenylephrine was needed in 85.5% of cases
    - administered as an infusion in 45.3%, as a bolus in 26.4%, and as a combination in 28.3%.
- Median lowest SBP represented a drop of 34.1% (to 65.9% of preoperative baseline) in the phenylephrine group and 30.7% (to 69.3% of baseline) in those who did not received phenylephrine.
- The median (IQR) intraoperative decrease in mean arterial pressure (MAP) in those who required phenylephrine was 33.7% (25.7–36.7), and 26.6% (24.5 – 29.1) in those who did not.
- 46.8% of newborns were admitted to NICU





CONCLUSION

The degree of intraoperative hypotension during cesarean delivery for PET is variable, with a significant proportion requiring vasopressor treatment. In both groups, the median drop in systolic blood pressure (SBP) exceeded the recommended level of less than 20% of the baseline, highlighting a need for practice improvement.

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Obstetric outcomes following induction of labour at term for conceptions following in vitro fertilisation (IVF)

The National Maternity Hospital
Vita Gloriosa Vita ~ Life Glorious Life

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BACKGROUND

There is evidence that the stillbirth rate at term is increased in pregnancies following assisted reproductive technology (ART)[1]. For this reason, many units, recommend that women who conceive with the assistance of in vitro fertilisation (IVF) or intracytoplasmic sperm injection (ICSI) deliver at 40 weeks' gestation. There is a concern that intervening by inducing labour may increase the rate of Caesarean Section (CS). In the National Maternity Hospital (NMH) the Robson Groups are used to categorise indications for CS[2]. Robson Group 2 patients are nulliparous women with a singleton cephalic pregnancy who's labour is induced.

AIMS

The aim of this study was to assess the obstetric and neonatal outcomes following induction of labour of primiparous women who's indication for induction was IVF conception. We report the obstetric outcomes here
Rates of CS were compared to rates from the annual report from NMH and national figures from the National Women and Infants Health Programme (NWIHP) reports.

METHODS

This was a single-centre retrospective cohort study of women who had conceived with the assistance of IVF/ICSI and underwent induction of labour (IOL) for this reason over a five year period from January 2018 to December 2023. Patients who's primary indication for IOL was not ART conception were excluded. Duration and method(s) of induction, mode of delivery, birth weight, obstetric and neonatal complications were recorded. Analysis is complete for the obstetric outcomes.

Table 1: Indication for Caesarean Section

Fetal (no oxytocin)	27
IUA - poor progress	64
IUA - inability to treat fetal intolerance	30
IUA - over contracting	0
IUA - No oxytocin given	0
EUA - persistent malposition	10
EUA - cephalopelvic disproportion	0

IUA = inefficient uterine action EUA = efficient uterine action

In 2023 in NMH, the overall rate of women delivered via C/S was 36% (n=2,443), with a rate of 47% (n=802) of Robson Group 2[2].

Nationally, 34% of singleton pregnancies (n=18,906) were delivered by CS.

RESULTS

A total of 339 nulliparous women were induced following an IVF/ICSI pregnancy. The median age of patients was 38 years (IQR 34-40 years). The median gestation at delivery was 40+2 weeks (IQR 39+6 – 40+6). The median duration of IOL was 27 hours (IQR 16-44 hours) with a median time on oxytocin of 3.5 hours (IQR of 0-8 hours). The mean estimated blood loss was 626mL (±433.9). Twenty-eight percent (n=95) of women had a spontaneous vaginal delivery, 33% (n=113) had an operative vaginal delivery and 39% (n= 131) had a CS. The most common indication for CS (49%) was Inefficient Uterine Action – poor progress (n=64/131). The mean blood loss at CS was 680.4mL (±383.7).

Figure 1: Pie chart of modes of delivery

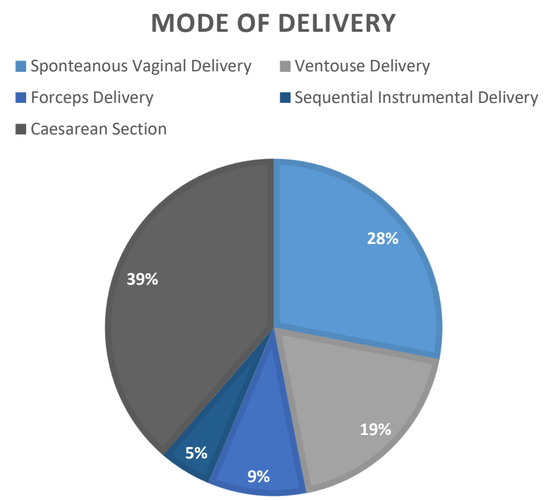

Table 2: Methods of IOL used

Methods of IOL	
Prostaglandin	62
Prostaglandin, ARM	42
Prostaglandin, ARM, Oxytocin	151
Prostaglandin, Oxytocin	36
ARM	8
ARM, Oxytocin	29
Oxytocin	7
Dilapan, prostaglandin, ARM, oxytocin	1
Dilapan, oxytocin	2
Dilapan, ARM, Oxytocin	1

ARM = artificial rupture of membranes

Conclusion

The CS rate in patients in this cohort was lower than the overall rate for primiparous women induced for any indication (39% vs 47%). Our study demonstrated that 61% of nulliparous women who had an IOL at 40 weeks' for conception assisted with IVF/ICSI had a vaginal delivery, which we believe supports continuing this practice.
Further analysis on the perinatal and neonatal outcomes is planned.

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‘This Space Inside’: An art-based autoethnographic exploration of the hysterectomy experience

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BACKGROUND

‘Skin had hope, that’s what skin does /Heals over the scarred place […] [But] skin remembers/ deep in the pocket that is skin’s secret own…’

Naomi Shihab Nye

Gynaecological illnesses are often relegated to the periphery of discourses on women’s health, and specifically so within current psychotherapy literature. A hysterectomy is the most common gynaecological surgery performed each year worldwide and an important treatment for benign illnesses as well as oncological conditions. There is a dearth of writing however, exploring the impact of this substantive surgery on self-identity.

A hysterectomy has particular significance, in that it marks a definitive end to the reproductive years (**Image 1**), potentially accompanied too by menopause, which has additional implications in terms of aging and well-being. Malson & Ussher (1997) note that the female body is always caught up in multiple systems of meaning, symbolic representations and power-relations. How then, is a womb-less body that no longer menstruates and cannot bear children, constructed and experienced (**Image 2**)? This question is especially resonant within socio-cultural contexts that afford particular salience to reproductive status as a marker of femininity and womanhood.

METHODS

‘We tell personal stories so that their specificity reveals a larger truth…’

Melissa Febos

This paper presents an art-based autoethnographic account of the hysterectomy experience. The author’s practice as a therapist working extensively with perinatal loss, was used to frame a personal journey through this terrain. The process of autoethnography draws upon several qualitative traditions including narrative inquiry and arts-based research. It seeks to describe and systematically analyse personal experience through creative methods, in order to understand wider culturally relevant themes. Here, the author’s image-making process post-surgery (2022) is interwoven with references to the existing literature, to create a textured account of what it means to reclaim a sense of bodily and psychic integrity post-hysterectomy.

Four key themes are discussed: ‘Navigating disruption’, ‘Adjusting to a changed body’, ‘Accommodating losses: emerging into Otherhood’, and ‘Renewal: recovering an inner space’.

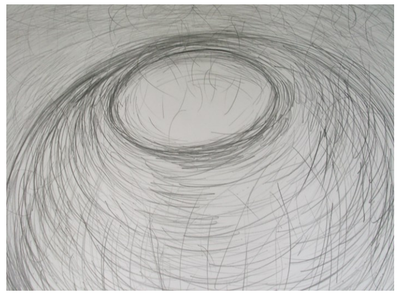


Image 1: ‘Vessel’

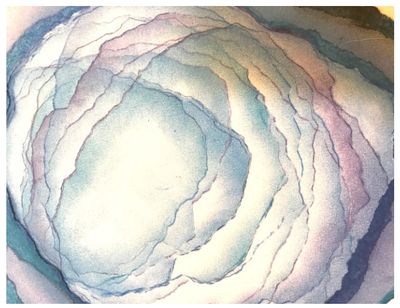


Image 2: ‘Vacant’

Image 3: ‘Wound’

Image 4: ‘Reconstruction’

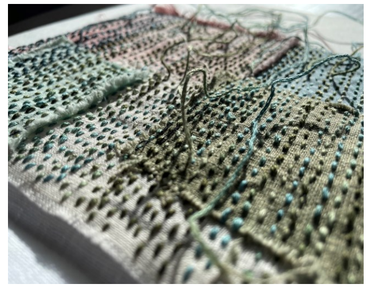


Image 5: ‘Narrative repair’

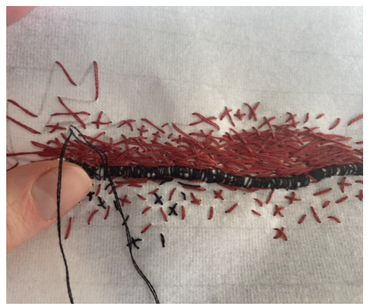


Image 6: Scar Tissue
‘A season of letting go’

Image 7: Reclaiming Space
‘Blue Interior’

RESULTS

1. Navigating Disruption

Challenges in the immediate aftermath of abdominal surgery will almost always include pain and discomfort, immobility, reduced energy and changes in bodily function (Li et al. 2023; **Image 3**). As a patient, the specifics of a surgical procedure are inherently elusive: you are aware that there has been cutting, reshaping and stitching, externally and internally, but only a general sense of this can be gleaned. This makes it difficult to construct a coherent narrative about what one’s body has been through, and how it has changed. Author Sinead Gleeson (2019) writes beautifully about the experience of inhabiting a post-operative body, articulating a kind of narrative impulse that surfaces in this context. She sees her own desire to represent her embodied experience as an attempt to understand what is happening ***and to construct new meaning***: ‘in taking all the pieces of the self, fractured by surgery, there is rearrangement: making wounds the source of inspiration, not the end of it’. (**Figure 4**)

2. Adjusting to a changed body

Pearce et al. (2014) note that a hysterectomy journey invariably begins with the arrival of a dysfunctional body into consciousness. In these circumstances, surgery brings liberation from difficult symptoms, but is disruptive too in its own right, heralding irrevocable changes. This includes the cessation of menstruation, which may be experienced with ambivalence, even if there has previously been intolerable pain or bleeding. Whilst ovarian conservation is feasible in some circumstances, there may be concerns for young patients about entering menopause. **Image 5** captures the experience of inhabiting a newly fragile, unfamiliar, ‘stitched together’ body. A duality exists within this patchworked piece: disruption and repair are both co-located within the fabric.

3. Accommodating loss: emerging into Otherhood

A hysterectomy entails many losses: it requires the cutting away of a body part, an organ which may have been valued as a locus of femininity and sexuality, as well as a key delineator of monthly cycles and a regulator of time, mood and energy. It is a surgery that also represents a definitive end-point to one’s child-bearing capacity, requiring adjustment to a new ‘season’ (**Image 6**). This will have particular poignance if there have been other losses or missed opportunities within one’s reproductive story along the way.

4. Renewal: recovering an inner space

Recovery from a hysterectomy is ultimately achieved not only through liberation from the ‘malfunctioning body’ that required intervention, but also through the integration of losses associated with the surgery. This is captured in **Figure 7** which reflects the reclamation of a sense of inner space and generativity.

In conclusion, the themes presented emphasize the need for psychological as well as physical recovery post-hysterectomy: a process of accommodating the deeper meanings of inhabiting a changed body and self-identity.

Developing Specialist Gynaecologic-Oncology Nursing Education: a global, co-operative approach

Belton, S.E*., Donovan, C., Fujiwara, N., Mellon, A., Johnson, A., Pearl, M. and Cohen, P.

Introduction

The International Gynecologic Cancer Society (IGCS) is a not-for-profit, multi-disciplinary group of professionals whose mission is to enhance the care of those affected by gynecological cancers worldwide through education, training and public awareness.

Specialist nursing education programmes have long been accessed through academic centres. However, this is not available in many settings, particularly in low- and middle-income countries (LMIC).

Aims:

- To create a globally accessible nursing certificate programme to equip nurses with the necessary knowledge to provide evidence-based care to patients with gynaecological cancers.
- To ensure accessibility across the global nursing community

Methods:

A team of nurses and clinicians, including over 20 experts, created 13 in-depth modules of content; covering diagnosis and treatments of the five types of gynaecological cancer; palliative care; survivorship; clinical research; ethics and nurses' wellbeing.

Content was peer reviewed and the process was assisted by a medical editor, ensuring that course material is consistent and high quality.

Results:

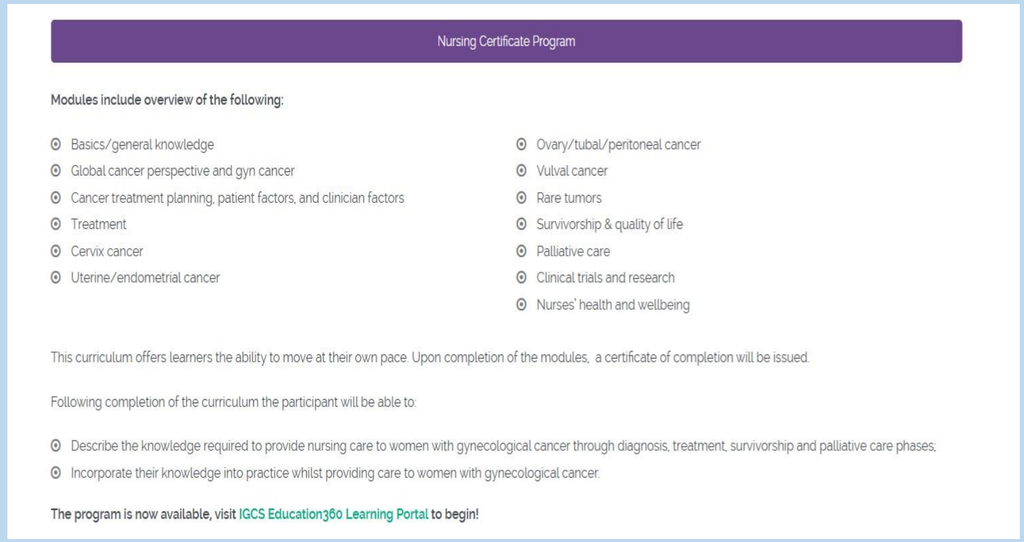
The certificate programme, accessed online through the IGCS Learning Portal, provides nurses at all career stages with comprehensive understanding of the complexities of care, irrespective of practice setting, culture or geographic location.

Content is delivered through multi-media such as podcast, webinars and presentations.

Launched in November 2023, 201 nurses have enrolled from across the globe including Africa and Asia. Access to the course is free for IGCS members. For non-members, fees are waived in respect of those nurses in LMIC, as per the economic classifications from the World Bank, ensuring accessibility where resources for nursing education may not be available.

Conclusion:

With over 10 nurses per month enrolling in the online Nursing Certificate Programme, there is a clear demand for evidence-based nursing education. The IGCS has created a globally accessible, affordable educational programme that enables nurses globally to acquire knowledge and improve patient care.



Nursing Certificate Program

Modules include overview of the following:

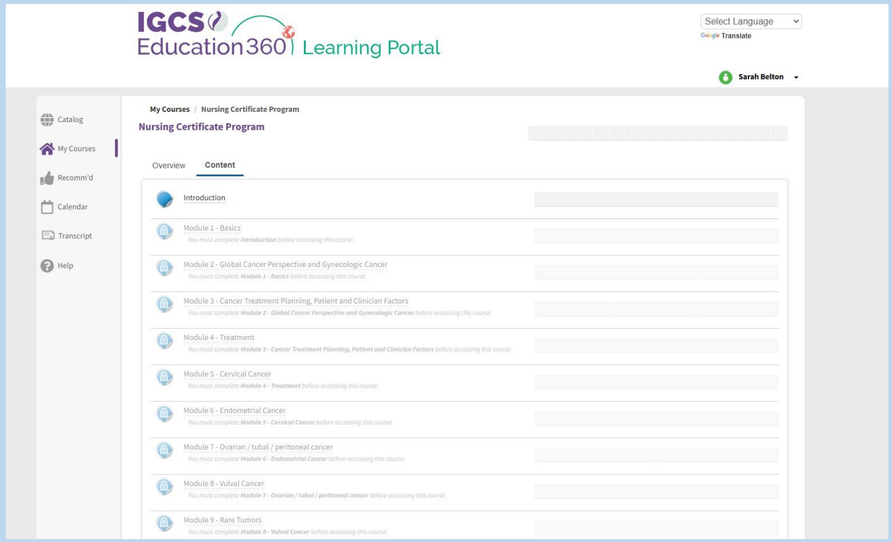
- Basics/general knowledge
- Global cancer perspective and gyn cancer
- Cancer treatment planning, patient factors, and clinician factors
- Treatment
- Cervix cancer
- Uterine/endometrial cancer
- Ovary/tubal/peritoneal cancer
- Vulval cancer
- Rare tumors
- Survivorship & quality of life
- Palliative care
- Clinical trials and research
- Nurses` health and wellbeing

This curriculum offers learners the ability to move at their own pace. Upon completion of the modules, a certificate of completion will be issued.

Following completion of the curriculum the participant will be able to:

- Describe the knowledge required to provide nursing care to women with gynecological cancer through diagnosis, treatment, survivorship and palliative care phases;
- Incorporate their knowledge into practice whilst providing care to women with gynecological cancer.

The program is now available, visit IGCS Education360 Learning Portal to begin!



CAN UMBILICAL CORD BLOOD IMPROVE DETECTION OF EARLY ONSET SEPSIS IN PRETERM NEONATES <34 WEEKS GESTATION?

The National Maternity Hospital
Vita Gloriosa Vita ~ Life Glorious Life

N Kealy, G O'Dea, S Moore, T Fallon Verbruggen, Dr S Knowles
National Maternity Hospital , Holles Street, Dublin 2

NMH Innovation
Towards a brighter future

BACKGROUND

Neonatal sepsis is a systemic infection in infants <28 days old, with early-onset sepsis (EOS) occurring within 72 hours of life. A peripheral blood culture (PBC) is the gold standard for EOS diagnosis. However, its sensitivity may be decreased due to low fill volume.

Umbilical cord blood culture (UCBC) is a technique in which umbilical cord blood is used for EOS detection. The benefits include

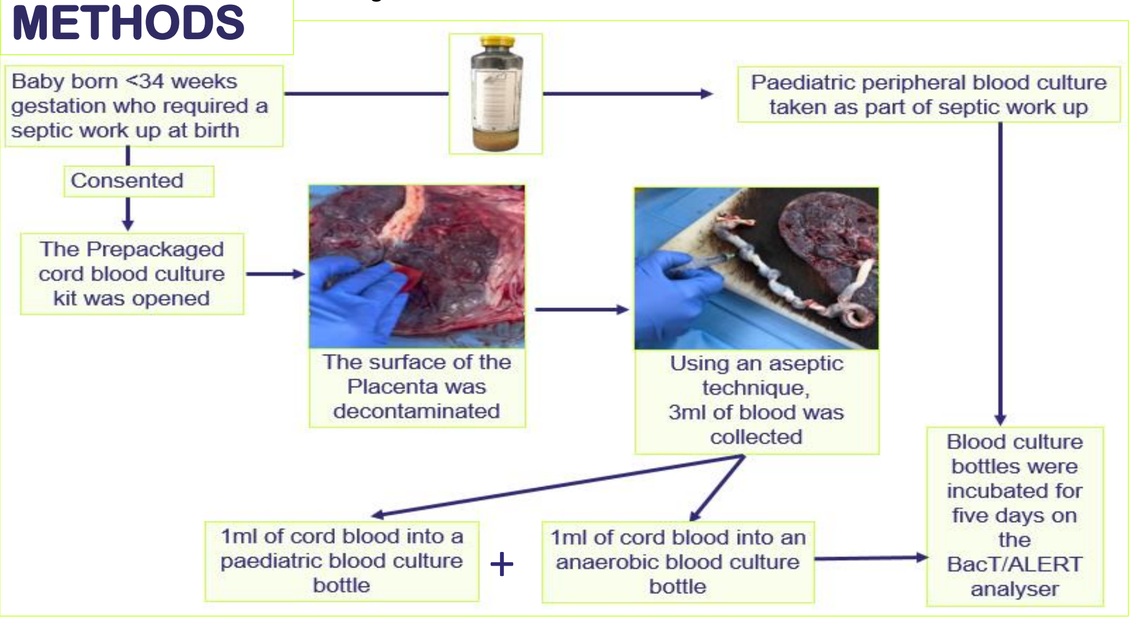
1) Painless for the neonate; 2) Required blood volume is easily obtained without risking iatrogenic anaemia and 3) UCBC is reported to have a higher sensitivity when compared to PBC for EOS detection.

AIM

To compare the effectiveness of UCBC versus PBC in detecting EOS in preterm neonates <34 weeks gestation. This was prompted by issues with inconsistent PBC fill volumes (*Image 1*) and sterile PBCs in clinically symptomatic neonates.

Image 1: Inconsistent fill volumes of PBC bottles

METHODS



RESULTS

Case	Gestation (weeks)	Weight (g)	Chorio	UCBC Paediatric bottle	UCBC Anaerobic bottle	PBC	Film Array Identification (BCID2 panel)
1	32+6	1870	N	Negative	Negative	Negative	
2	23+6	640	N	Negative	NT	Negative	
3	23+6	500	N	Negative	NT	Negative	
4	32+3	2190	N	Negative	NT	Negative	
5	33+4	2420	Y	Negative	Positive	Negative	*S. epidermidis* Contam
6	28+0	900	N	Positive	Negative	Negative	None detected Contam
7	31+5	2085	N	Positive	Negative	Negative	*S. epidermidis* Contam
8	33+4	2300	N	Positive	Positive	Negative	*Streptococcus* spp. Contam
9	33+6	2280	Y	Negative	Positive	Negative	None Detected Contam
10	33+2	2090	Y	Negative	Negative	Negative	
11	29+5	1570	N	Negative	Negative	Negative	
12	29+5	1400	Y	Positive	Positive	Negative	*E faecalis* ,*Streptococc*us spp.Contam
13	33+5	2590	Y	NT	Positive	Negative	*S. agalactiae*, ? True Positive
14	26+5	890	Y	Positive	Positive	Positive	*E. coli* True Positive
15	31+5	1930	N	NT	Positive	Negative	*S. epidermidis* Contam
16	33+5	1905	N	Negative	Negative	Negative	
17	33+5	2270	N	Negative	Negative	Negative	
18	32+2	2070	NP	Negative	Negative	Negative	
19	28+6	1075	N	Positive	Positive	Negative	*S epidermidis* Contam
20	29+5	1480	N	Negative	Negative	Negative	
21	29+5	1485	N	Negative	NT	Negative	

Table 1: Blood culture results of UCBC paediatric and anaerobic bottles compared to PBC bottle

Case	UCBC Paediatric bottle	UCBC Anaerobic bottle	PBC
14	9hrs	9hrs	12hrs

Table 5: TTD of UCBC paediatric bottle and anaerobic bottle vs PBC bottle for Case 14

	UCBC	PBC
Contamination rate	48% (10/21)	0% (21/21)

Table 2: UCBC / PBC contamination rate

	Ward UCBC	Laboratory UCBC
Contamination rate	91% (10/11)	0% (13/13)

Table 3: UCBC contamination rate by sample collector

UCBC	
Sensitivity	100%
Specificity	55%
PPV	100%
NPV	10%

Table 4: UCBC performance

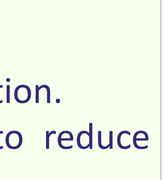


Image 2: Inconsistent fill volume between UCBC and PBC bottles in case 13

DISCUSSION

- In 21 participants, UCBC showed 100% sensitivity and 55% specificity when compared to PBC for EOS detection.
- In Case 14, UCBC detected EOS (*E. coli)* 3 hours earlier than PBC, likely due to a higher blood fill volume in UCBC bottles.
- In Case 13, UCBC was GBS-positive while the under filled PBC was negative, suggesting the possibility of a false negative PBC (*Image 2*).
- Contamination was high (48%), mainly from specific sample collectors (*table 3*).
- Training was limited to a video/poster and lack of individual training likely contributed to this high contamination rate.

CONCLUSION

- UCBC had shorter time to positivity compared to PBC for EOS detection.
- Limited sample size and low positivity rate presented challenges in evaluation.
- A core team trained in aseptic UCBC collection would be required to reduce contamination rate

Improving Sanitary Pads in the Out Patient Setting

The National Maternity Hospital
Vita Gloriosa Vita ~ Life Glorious Life

Natasha Farron Mahon CMM2 Colposcopy

NMH Innovation
Towards a brighter future

BACKGROUND

- The advice given by dermatologists and gynaecologists regarding care of vulval skin is to avoid chemicals, irritants, daily use of panty liners and sanitary pads.
- When tasked with the project to update the leaflets given to patients regarding vulval care, it was apparent that the sanitary products we provided in the colposcopy and gynaecology departments did not follow best practice [1, 2].
- Analysis of the products used showed that they contained chemicals that were not only bad for vulval skin but could potentially cause infections such as bacterial vaginosis [3]and recurrent vulvitis [4].
- Further investigation showed that the pads used also had social and environmental implications including animal testing.
- In addition, pads contain almost 90% plastic, taking up to 800 years to decompose and playing a large part in the environmental problem of microplastics [6].
- It was clear that we, as women's health care providers, needed to provide the best available product for our patients and by doing so, make a change to a more environmental and socially responsible product

AIMS

To change the sanitary pad provided to patients to a healthier, more sustainable and socially conscious product.

METHODS

- Numerous sanitary pad providers were reviewed with the Riley company being the most appropriate.
- Senior hospital management were approached and the change of product proposal was pitched. This was met with a resounding approval.
- Purchasing and tendering department was engaged. Riley company was contacted and their proposal reviewed.
- New product was ordered in June 2024 and was being used by July 2024.

RESULTS

The new sanitary pads being used in the NMH are European made and Irish owned. The pads are 100% compostable, contain zero chemicals and are certified cruelty free. The new product is a positive step for both patient health and the environment.

CONCLUSION

The outcome for patients is to yet be assessed but as the pads now used are 100% compostable the environmental impact is immediate. Further plans to change the maternity pads used are to be considered when an appropriate product can be sourced.

Supporting Healthcare Professionals using Multi-Modal Clinical Skills Education for Maternal Sepsis

Early Treatment Saves Lives

Ms. Lavanya Lakshmanan, Dr.Susan Knowles ,Dr.Laoise O'Brien,
Ms. Lucille Sheehy, Ms. Emily Flynn, Ms. Shideh Kiafar

The National Maternity Hospital
Vita Gloriosa Vita ~ Life Glorious Life

NMH Innovation
Towards a brighter future

BACKGROUND

Maternal sepsis is a life-threatening organ dysfunction due to infection during or after pregnancy. Healthcare professionals play a critical role in recognizing early physiological changes that may indicate the onset of sepsis. Prompt intervention can prevent septic shock and save lives. Failures in detection and response to sepsis have been frequently documented. Knowledge and use of clinical guidelines and sepsis screening tools are established methods to help reduce patient mortality. Multi-modal strategies are key in on-going education and training of multi-disciplinary clinical staff across an organisation.

AIMS

- To promote the skills and knowledge for early recognition and management of sepsis
- To reduce mortality and morbidity from sepsis
- To avoid preventable escalation to critical care.

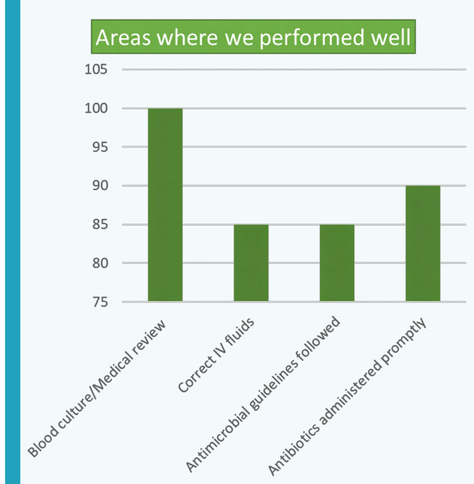
METHODS

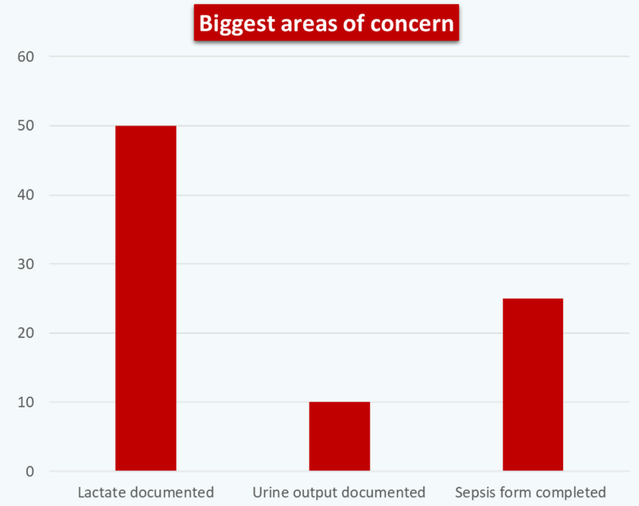
Retrospective Sepsis audit conducted on 20 charts which met at least one of the following criteria:

- Clinical suspicion of infection with relevant IMEWS triggers, and/or ≥ 2 SIRS response
- Evidence of new onset organ dysfunction

Sepsis 6+1 within an hour and documentation compliance was audited

RESULTS





IMPLEMENTED AND ONGOING QUALITY INITIATIVES

Quality Improvement Plan The findings necessitated the need to improve documentation through training and better communication. Multimodal strategies were used for QIP. Post QIP implementation evaluation was done using direct feedback and survey monkey

Audits

Planned quarterly audit /dedicated sepsis response team,/sepsis performance improvement committee to review

Education and training

- PROMPT- Sepsis station
- Regular ward based training
- Sepsis module compliance achievement
- Mandatory sepsis training at induction

MNCMS electronic health record Sepsis 'Auto-text' was developed to improve bundle compliance by providing an order set

Time of medical review	
Blood cultures	
Bloods including lactate	
Urine output	
Intravenous Fluids	
Antibiotics (as per guidelines)	
Supplemental Oxygen (if required)	
+1 (if antenatal) Fetal wellbeing	
Sepsis Form	

Dissemination of audit results

Through safety pauses, notice boards and safety huddles

Sepsis awareness week

- Clinical scenario presentations
- Sepsis Quiz
- Simulation training

Comprehensive training supplemented by Laminated sepsis poster, Individual sepsis cards

RESULTS OF QUALITY INITIATIVES

PROMPT Skills & Drills sepsis station -8 multi-disciplinary training sessions conducted – 76% of staff attended

- 97% of clinical staff completed HSE Land sepsis module
- 70% of staff participated in clinical scenarios presentation, simulation training, sepsis quiz on sepsis week
- 100% of all new staff completed training
- Simulation training at induction.

CONCLUSION

The result of the QIP evaluation showed a reported positive learning experience by participants and an increase in confidence in managing clinical maternal sepsis

PLAN FOR SUSTAINABILITY

- Continue to undertake quarterly audits and implement quality initiatives regularly
- Planned rapid learning events
- Sepsis awareness week
- Monitor training compliance regularly.

RECOGNISE SEPSIS • ENHANCE SURVIVAL •

The National Maternity Hospital
Vita Gloriosa Vita ~ Life Glorious Life

Being and Becoming a Midwife in a New Country

Ms. Lavanya Lakshmanan, Ms. Lucille Sheehy,
Ms. Saila Kuriakose, Ms. Colette O'Neill

NMH Innovation
Towards a brighter future

BACKROUND

The Global State of the World's Midwifery Report 2021 highlighted a deficit of 900,000 midwives - one-third of the global workforce. COVID-19, high attrition rates, evolving needs of women and new-borns continue to contribute to this shortage. Evidence shows more healthcare professionals migrating from developing nations, are facing significant challenges in their transition as overseas-trained professionals. Effective transition and training programs are crucial to address these challenges, ensure patient safety, and support well-being and retention

AIMS

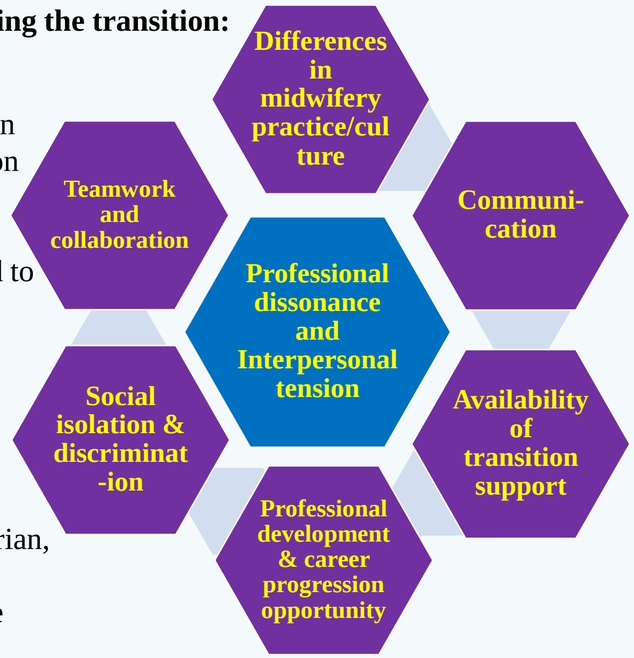
- To identify factors affecting transition, develop training programs that support safe transition, patient safety, and midwife well-being

METHODS

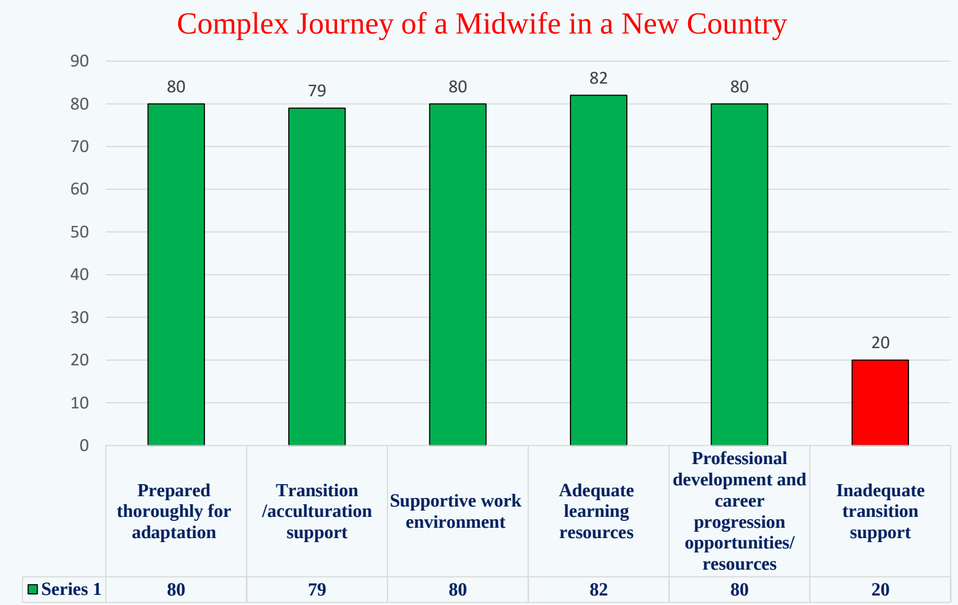
Scoping review was conducted to identify the Factors affecting the transition:

Following Implementation of the education strategies, an online survey was conducted to evaluate the transition programmes

11 Midwives (Indian, Nigerian, Turkish) completed the survey

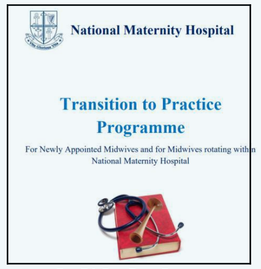


RESULTS



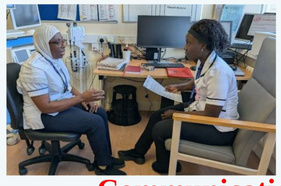
IMPLEMENTED AND ONGOING QUALITY INITIATIVES

Clear framework for
- Registration
- Adaptation
- Transition



Strict anti discrimination and equal opportunity policies

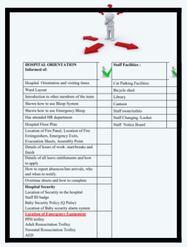
Work life balance and wellbeing Flexible duty roster, guidance to access resources and wellness programs



National Healthcare Communication Programme

Communication skills NHCP program, abbreviations book

Easy access to learning resources
Hospital e-learning system
- Ad-hoc training
- Ward based simulation training
- Care pathways
- Summaries of clinical procedures

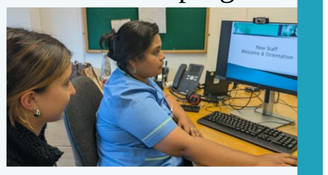


Policy and checklist to guide managers, facilitators, new midwives during transition

Safe working conditions
Supernumerary time
Buddy system
Designated preceptor /facilitator

Workplace and social support
Designated facilitator to support
- Connections with their native peers & cultural organisations
- Assistance with accommodation
- Individual and group reflection

Structured orientation and induction programs



Professional development and career progression
Career pathways
- Mentorship programs
- Funding and re - certification
- Performance achievement programs

CONCLUSION

Findings suggest that future International Qualified Midwife transition programs must ensure adequate educational resources, robust training, and collegial support to enable successful transitions, safe and effective patient care, and the physical, emotional, and mental wellbeing and retention of Midwives

PLAN FOR SUSTAINABILITY

Continuous identification of learning/training gaps, continue to undertake audits, evaluation of transition programs, restructure /implement quality initiatives regularly.

Heartbeat in a Bottle; A NICU innovation

Shirley Moore RANP (Neonatology), RGN, RM, RNP, MSc Nursing

BACKGROUND

Inspired from recent personal experience, the author would love to introduce the innovation of “Heartbeat in a bottle” for families in NICU experiencing a bereavement.
It is well known that families may experience anxiety, depression, PTSD or prolonged grief after the death of a loved one in an ICU environment.
This simple yet invaluable keepsake has been introduced in many adult ICU/Critical care areas a cross the globe to help grieving families.

AIMS

The author envisions this to be a precious addition to the memory boxes provided to parents of babies who die in the NICU.

METHODS

A printout of the baby’s heart rate is rolled and placed in a clear glass bottle with a label attached at the lid which will contain their name. The heart rate and rhythm should be normal when printing.
The print out from the central monitor will be on an A4 sheet and ECG reading will need to be cut to size.
Roll up with the printed heartbeat facing outwards and place in the small glass vial so the heart beat trace is visible. Secure the lid and attach the nametag label.
The parents can request a number of these for other family members if needed.

The National Maternity Hospital
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RESULTS

It is envisioned that this simple yet caring gesture will offer comfort to our families in their grief.

Conclusion

Heartbeat in a bottle is a small, treasurable keepsake that could help provide consolation in a time of anguish for NICU parents.

NMH Innovation
Towards a brighter future

TIMING OF DRESSING REMOVAL POST CAESAREAN SECTION

Li J[2]., Redmond B[1]., Kiafar S.[1,2], Knowles S[1,2].
[1]National Maternity Hospital, Holles Street, Dublin, Ireland [2]University College Dublin, Belfield, Dublin, Ireland

BACKGROUND

Caesarean surgical site infections (CS-SSIs) cause significant maternal morbidity and are mostly avoidable. Research found CS-SSIs double between dressing removal day 1 versus day 2[1]. National prevention of SSI guideline recommends dressing remains in place up to 48hrs, allowing for local clinical variations[2]. In 2022, 97.7% of NMH midwives reported removing dressings after 24hrs, most (79.1%) at 48-72hrs. A six-month trial conducted in NMH in 2023 found superficial CS-SSIs reduced by 21.8%. As a result, the practice was changed in Jan 2024 to remove dressings at 24hrs ± 6hrs. This project evaluates the effect of this change on CS-SSI rate.

AIMS

To evaluate the change in practice of removing wound dressing earlier at 24hrs ± 6hrs, to gather further data to further assess the impact of the change of practice on reducing CS-SSIs.

METHODS

A retrospective chart review was conducted on all NMH caesarean patients between Jan to Dec 2024. Those with vacuum dressing and undocumented dressing removal were excluded. Data was collected on timing of dressing removal, compliance with new practice and documentation. The relationship between dressing removal timing and the incidence of CS-SSIs was evaluated.

RESULTS

The timing of dressing removal is summarised in the table below:

Removal Timing	Jan-Dec 2024	Jan-June 2023	2022
>72hrs	1%	0.9%	7%
49-72hrs	4.1%	10%	79.1%
31-48hrs	33.4%	34%	13.9% (24-48hrs)
24-30hrs	44.8%	33%	As above
<24hrs	16.7%	22%	0%

RESULTS

1,926 patient records were reviewed.
Compliance with documentation of dressing removal was satisfactory (86.6%).

Compliance with removing dressing at 24hrs ± 6hrs improved from 55% during the 6-month trial to 60.7% in 2024. 61.5% had dressing removal within 30hrs with a CS-SSI rate of 5.06%. In contrast, 38.5% had dressing removed after 30hrs with a higher SSI rate of 6.75%. This difference did not reach statistical significance (p-value =0.13).

A summary of CS-SSIs stratified by dressing removal time (≤30hrs v.s. >30hrs) is presented below:

	Removed ≤ 30hrs	Removed >30hrs
Number of dressings	1185	741
Total CS-SSIs	5.06% (n=60/1185)	6.75% (n=50/741)
Superficial infections	3.88% (n=46/1185)	4.86% (n=36/741)
Deep infections	1.27% (n=15/1185)	1.48% (n=11/741)

Conclusion

Although statistical significance was not achieved (likely due to limited sample size), results suggest a downward trend in CS-SSIs when dressing is removed before 30hrs (5.06%) compared to after 30hrs (6.75%), supporting a safe change of practice to remove dressings at 24hrs ± 6hrs.
While 60.7% of dressings were removed at 24hrs ± 6hrs, there has been an overall shift towards earlier dressing removal. In 2022, 79.1% of dressings were removed at 48-72hrs, whereas in 2024, the majority (78.2%) were removed at 24-48hrs, demonstrating a significant change in practice.

References
[1] Kremer, P., McMullen, K., Russo, A., Babcock, H., & Warren, D. (2014). What a difference a day makes: Removing post-operative dressing on day 2. *American Journal of Infection Control*, *42*(6), S128-S129.
[2] AMRIC (2024). Prevention of surgical site infections V1.0 11.12.2024

RhD Sensitizations Post RAADP in a Tertiary Referral Maternity Hospital

The National Maternity Hospital
Vita Gloriosa Vita ~ Life Glorious Life

R.Mathew [1] , A Reynolds [2,] S. Corcoran [1,3], J Fitzgerald [2,3]

NMH Innovation
Towards a brighter future

1.Dept of Obstetrics & Gynaecology, 2 Dept of Haematology & Blood Transfusion, The National Maternity Hospital, & 3 UCD Dublin 4

BACKGROUND

Post-partum anti-D immunoglobulin administered to RhD-negative women and routine antenatal anti-D prophylaxis (RAADP) have reduced the incidence of haemolytic disease of the fetus and newborn (HDFN) due to anti-D. RAADP commenced in the National Maternity Hospital (NMH) in April 2015. However RhD negative women continue to develop immune anti-D, despite best practice. Certain risk factors have been identified, e.g. Post dates delivery, higher BMI, and caesarean sections (C/S). Human factors are also involved, e.g. omission or delay in receiving prophylaxis.

AIMS

To identify all women with immune anti-D presenting to the NMH between Jan 2016 - Dec 2024 and clarify risk factors that may underlie RhD sensitisation despite RAADP implementation.

Sensitizing events that Require Anti-D (BCSH Guideline)	
Amniocentesis, chorionic villus biopsy and cordocentesis	Antepartum haemorrhage/Uterine (PV) bleeding in pregnancy
External cephalic version	Abdominal trauma
Ectopic pregnancy	Evacuation of molar pregnancy
Intrauterine death and stillbirth	*In-utero* therapeutic interventions
Miscarriage, threatened miscarriage	Therapeutic termination of pregnancy
Delivery – normal, instrumental or Caesarean section	Intra-operative cell salvage

METHODS

Data was collected and analyzed on a Microsoft Excel database through a review of patient laboratory, paper and electronic records.

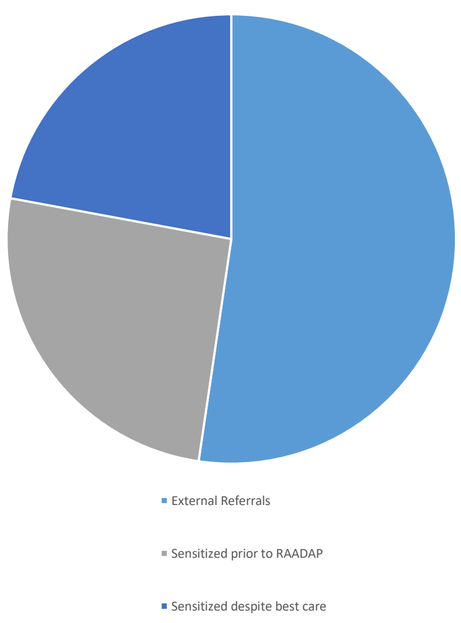
- Cases with recent history of prophylactic administration and levels <0.4iu were excluded.
- Cases sensitized in previous pregnancies prior to RAADP implementation were segregaated.
- Analysis of risk factors was performed for cases of immune anti-D who had received both antenatal (including RAADP and postnatal anti-D prophylaxis or were sensitized prior to RAADP in 1st pregnancy.

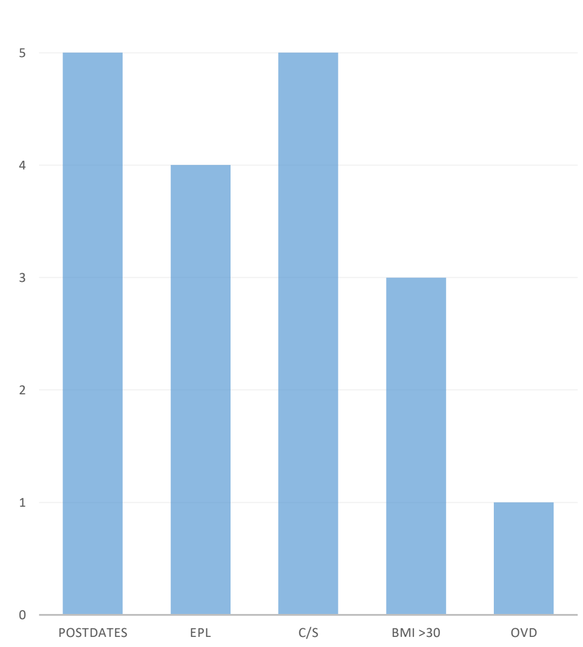
Number of Women delivered in NMH 9 year period	**60,754**
Immune anti-D	**86**
External Referrals	45
Sensitised prior to RAADP	22
Sensitised despite best care	19

RESULTS

19 cases were identified as new sensitizations despite given full anti-D prophylaxis. Based on an RhD negative frequency of 17% the residual risk is estimated as 0.18% of RhD neg women.

- 1 case detected at 28 weeks had PV bleed @ 6 weeks
- 2 cases of postdates delivery no previous pregnancy anti-D detected post-natal
- Majority of cases had events in previous pregnancies e.g., early pregnancy loss, C/S, postdates; sometimes multiple events
- Some cases of early pregnancy loss did not receive anti-D prophylaxis (i.e., <12 weeks, conservative management)





Conclusion

This is a single centre study of RhD sensitised women that shows a residual risk of 0.18% of women becoming sensitised despite RAADP. As > 50% of the overall cases identified were external referrals we recommend the implementation of national reporting of all new RhD sensitisations like that run by SHOT-UK. If we can identify and manage such risk factors we might further reduce HDFN in the future.

"FEEDING MY BABY AT HOME AFTER THE NEONATAL INTENSIVE CARE UNIT (NICU) UNIT " ONLINE CLASS: A QUALITY IMPROVEMENT PROJECT (QIP).

The National Maternity Hospital
Vita Gloriosa Vita ~ Life Glorious Life

Lorna O'Connor[1], Jessica Smith[1], Vanessa Winn[1], Sarah Browne[1], Zelda M. Greene[2], Ramita Dangol[3], Roberta A. McCarthy[1] .[1]Department of Clinical Nutrition and Dietetics; National Maternity Hospital (NMH), Holles Street, Dublin. [2]Speech and Language Therapist, NMH, Holles Street, Dublin.
[3]Lactation Support Service, NMH , Holles Street, Dublin.

NMH Innovation
Towards a brighter future

BACKGROUND

NICU provides care to medically complex and premature babies who are nutritionally vulnerable and at risk of challenges with feeding and growth.
Up to 42% of preterm infants experience problematic feeding in the first 4 years[1]. To facilitate the transition to home, parents have identified tailored education and support post NICU as helpful[2]
This has been reflected in feedback from staff and families at National Maternity Hospital (NMH) who both need and value this support post discharge. QIP in healthcare can enhance patient care by measuring effectiveness and maximising patient satisfaction and engagement to improve patient outcomes.

AIM

To support parents with feeding following their babies discharge from NICU at NMH through an online MDT class.

To increase attendance by parents of babies discharged from the NICU from 12.5% to 60% by January 2025

METHODS

The class was developed with multidisciplinary

(MDT) input based on reported educational needs of

parents and by staff.

Patient engagement was measured by attendance.

Stakeholder feedback was sought from both parents & staff.

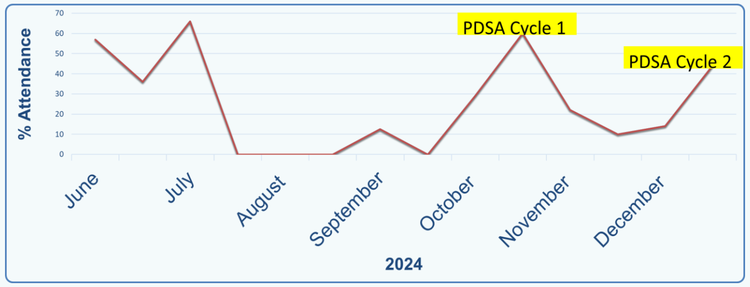
The Plan-Do-Study-Act (PDSA) framework was utilised to optimise attendance.

RESULTS

11 classes in 7 months

Average attendance: 29%
(n=24) of eligible parents (n=83)

Figure 3.



Following PDSA Cycle 2 attendance increased from 13% to 44% of eligible parents (figure 3).

Stakeholder Feedback

Staff Feedback: (Figure 4).

100% of outpatient staff responded (n=2)

Figure 4.

Most Common Questions From Parents	Identified Educational Needs by Staff	Class Format	Optimum Timing
Constipation (50%)	Feeding cues (50%)	In-person/ Virtual	2 weeks post discharge
Growth Concerns (50%)	Mixed feeding (50%)		

Parental Feedback:

- All parents responding to the survey (n=3) reported feeling more confident with feeding.
- Preference for online rather than an in-person class.

Conclusion

The class is part of a structured feeding and nutrition education programme for parents to optimise infant feeding and growth. It starts in NICU and continues post discharge to include complementary feeding. It offers support to families and increases confidence with feeding their babies during the early weeks as they transition at home.

PDSA Cycles will continue to drive the iterative process to optimise attendance, use of resources and enhance patient care. It has also strengthened team work through collaboration & standardisation of education provided to families

Future work will explore the impact of education on the incidence of feeding challenges post discharge. Preliminary findings would suggest that this package of care has had a positive impact

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Improving the management of perioperative shivering during caesarean section. A quality improvement project.

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BACKGROUND

Shivering is one of the most common complications during and after caesarean section (CS) under neuraxial anaesthesia. Shivering can cause significant discomfort to patients and affect quality of recovery. An initial audit at our institution revealed a high incidence of shivering, which was typically undocumented on anaesthesia records and undertreated in terms of pharmacological management. Following this, a protocol was developed to guide anaesthesiologists in the documentation and pharmacological management of perioperative shivering. In addition, staff were educated and a section on online electronic health record, SN Anaesthesia, was included for recording of perioperative shivering.

AIMS

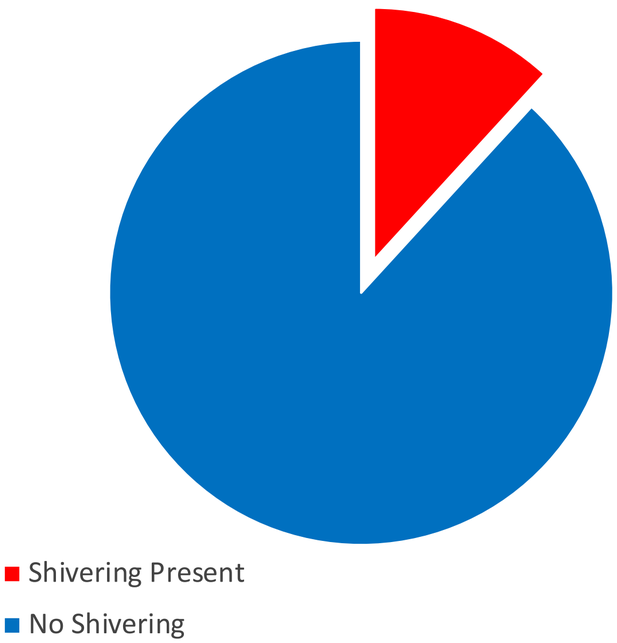
A reaudit was conducted to examine the impact of our interventions.

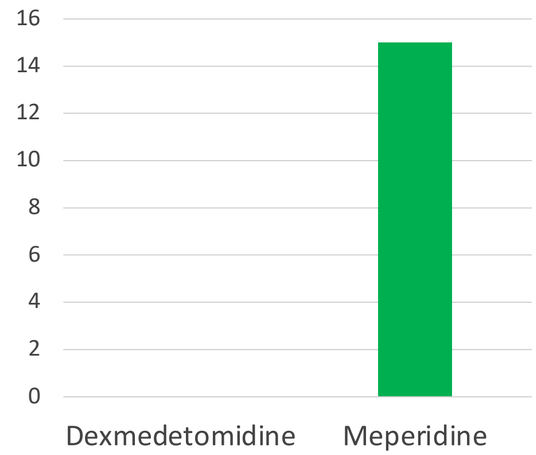
METHODS

The initial audit was conducted prospectively while the reaudit was conducted by retrospective review of SN Anaesthesia data. Reaudit data were collected, tabulated and analysed for the 2-month period from November to December 2024. Approval for the study was obtained from the hospital audit committee.

RESULTS

Incidence of perioperative shivering in the reaudit period was 11.8% (15/127), with all patients receiving pethidine for pharmacological management. This compares to initial prospective data revealing an incidence of 47% (32/68) with only one patient receiving pharmacological management. No patient received Dexmedetomidine.





CONCLUSION

Pharmacological management of perioperative shivering has improved significantly since our protocol introduction and education sessions although use of Dexmedetomidine remains poor. The lower incidence in our reaudit is likely due to the retrospective nature and continued underreporting of presence of shivering on anaesthesia records.

THE TIME OF YOUR MIDWIFE

FOR WOMEN WITH NORMAL RISK PREGNANCIES, CARE IS PROVIDED BY A MIDWIFERY LED SERVICE WITHIN A MULTIDISCIPLINARY FRAMEWORK IN THE OPD.

THE MATERNITY CARE STRATEGY 2016 INTRODUCED 3 MODELS OF CARE

SUPPORTIVE CARE

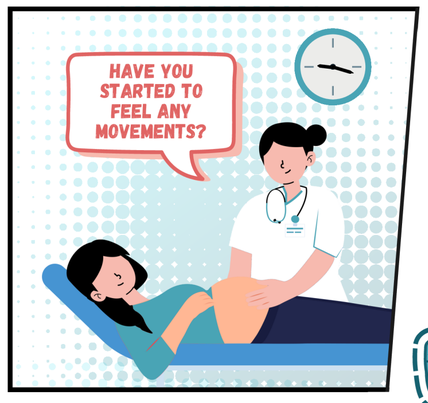
- NORMAL RISK
- OFTEN PROVIDED BY MIDWIFERY LED SERVICES.
- EMPHASIZES CONTINUITY OF CARE.

ASSISTED CARE

- MEDIUM RISK
- HIGHER LEVEL OF OVERSIGHT
- POTENTIALLY MORE INTENSIVE CARE

SPECIALISED CARE

- HIGH RISK
- REQUIRE MORE EXTENSIVE AND SPECIALIZED CARE, EITHER THROUGHOUT THEIR PREGNANCY OR AT SPECIFIC STAGES



RESULT

EVERY CLINIC LISTED IS FILLED TO CAPACITY, HAVE INCREASED THE NUMBER OF CLINICS OPERATING OUT OF THE OPD WITH AN OPTION FOR MW LED CARE DAILY IN THE ANC.

RESULT

63% SVD RATE & 14.5% OVD RATE

MIDWIVES CLINIC HAS A 3% DNA RATE WHEN COMPARED WITH 7% IN OTHER CLINICS.

RESULT

GIVES MIDWIVES A SENSE OF FULFILMENT, ENERGY AND AN OWNERSHIP FOR THE CLINICS.

HELPS WITH STAFF RETENTION AND POSITIVE WORK BALANCE IN THE CLINIC.

ASSISTED CARE: FOR WOMEN WHO REQUIRE A HIGHER LEVEL OF OBSTETRIC CARE

SPECIALISED CARE: FOR WOMEN WITH HIGH RISK PREGNANCIES

Identifying nutritional risk of pregnant women attending the Holles outpatient clinic using the FIGO Nutrition Checklist and accessing its acceptability for use in routine antenatal care

Lucy Murphy[1], Maire Gallagher[1], Emma Hokey[1], Sophie Callanan[1], Sarah Louise Kileen[2], Fionnuala McAuliffe[1,3]

1. UCD Perinatal Research Centre, The National Maternity Hospital, Dublin 2.
2. Department of Clinical Nutrition & Dietetics, The National Maternity Hospital, Dublin 2.
3. The National Maternity Hospital, Dublin 2.

BACKGROUND

Diet is a **modifiable risk factor** associated with adverse pregnancy outcomes and non communicable diseases.

Pregnancy is crucial time to encourage healthier lifestyle choices.

The **FIGO Nutrition Checklist** is a nutrition assessment tool – identifies **potential nutritional risks** in the diet of women. Collects info on dietary choices, BMI, diet quality & supplement use.

Designed to **facilitate health promoting conversations** among patients and Healthcare professionals.

AIMS

- Identify potential **nutritional risk** in pregnant women attending the National Maternity Hospital using the **FIGO Nutrition Checklist**
- Assess **acceptability** of the checklist for use in routine antenatal care
- Examine **delivery outcomes** of those who completed the checklist

METHODS

Women of any gestation were approached in the Holles outpatient department and invited to take part.

The FIGO Nutrition Checklist survey was accessed via Surveymonkey on the participants phone

An acceptability form was carried out to collect feedback on the Nutrition Checklist and barriers to following a healthy diet during pregnancy

Data analysis was carried out using SPSS V29.
Qualitative analysis was coded using the Braun and Clarke thematic analysis framework

Scan me!

Conclusion

The FIGO Nutrition Checklist identified nutritional concerns in pregnancy, and the acceptability of the checklist was excellent. Our findings suggest that using the tool as part of routine antenatal care should be considered.

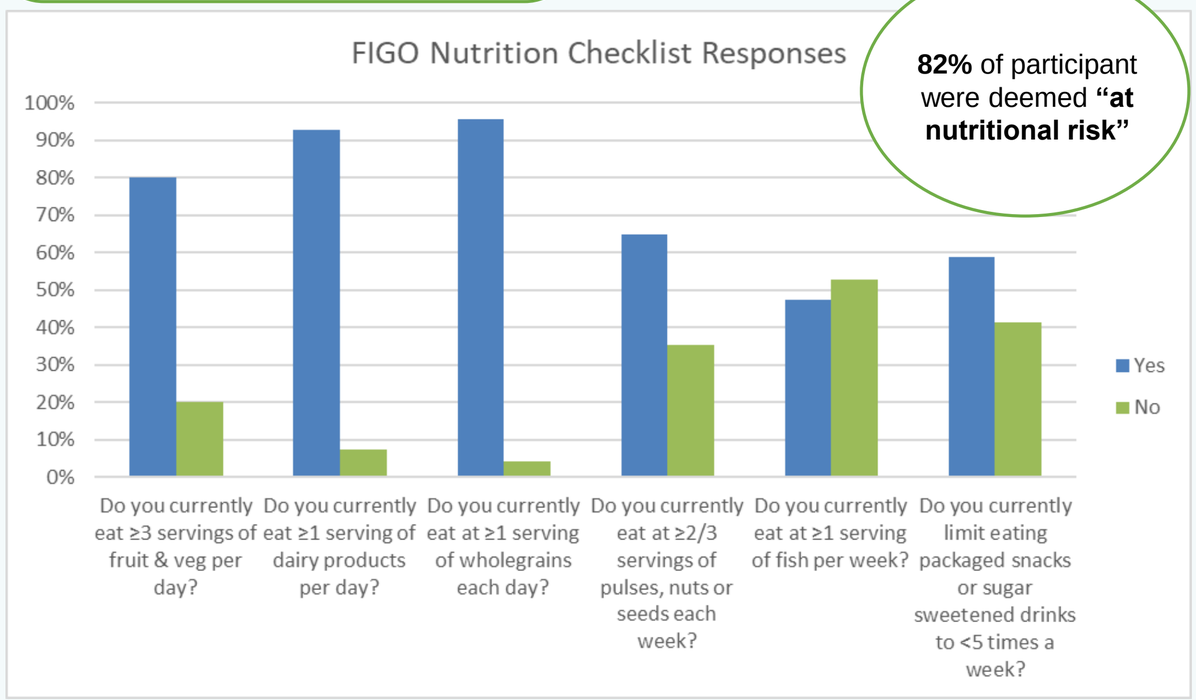
RESULTS

Participant Characteristics
A total of **300** women completed the Nutrition Checklist survey.
The **median age** of the participants was **34**.
The majority (**67%**) were in the **third trimester**, at the time of completion. The median **BMI** of participants was **26.8kg/m² , 63.2% having a BMI >25kg/m².**
Mean Hb at **booking visit** was **12.6**, **mean Hb later** in pregnancy was **11.6**

Acceptability Survey Results
80% strongly agreed the checklist was **easy** to complete
34.7% said **nutrition** had been a **regular discussion** during their pregnancy
Physical symptoms of pregnancy, **lifestyle, knowledge** and **perceptions of healthy eating** were identified as the main **barriers to optimal nutrition during pregnancy.**

Delivery Complications & Nutritional risk

Delivery complication (n,%)	Nutritional risk (p-value)
Postpartum haemorrhage (91, 31.8%)	74/91, 81.3% (0.715)
Gestational diabetes (30, 10.5%)	23/30, 76.7% (0.142)
Pyrexia in labour (28, 3.5%)	23/28, 82.5% (0.138)
Pre-eclampsia (17, 6%)	15/17, 88.2% (0.518)
Hypertension (5, 1.8%)	5/5, 100% (0.298)
Preterm rupture of membranes (4, 1.4%)	4/4, 100% (0.353)
Pregnancy induced hypertension (12, 4.2%)	8/12, 66.7% (0.142)



82% of participant were deemed **"at nutritional risk"**

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Pregnancy with Type 1 Diabetes Mellitus at the National Maternity Hospital

Sorcha Feehan, Claire-Daisy O'Reilly, Eimear Rutter, Ciara Coveney, Catherine Chambers, Aoife Gill, Sinead Cadogan, Gillian Corbett, Rhona Mahony, Jennifer Walsh, Mary Higgins, Mensud Hatunic

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BACKGROUND

The National Maternity Hospital (NMH) Diabetes service cares for 30-40% of T1DM in pregnancy in Ireland. This audit examines the diabetic and pregnancy outcomes for women with T1DM at NMH. Pregnancies complicated by Type 1 Diabetes Mellitus (T1DM) require intensive multidisciplinary management to reduce the risk of adverse outcomes. At the National Maternity Hospital, the increased integration of continuous glucose monitoring (CGM) into care has led to measurable improvements in both maternal and neonatal outcomes. This shift reflects a broader movement toward data-driven, patient-centred care in high-risk obstetrics.

AIMS

To highlight the improved maternal and neonatal outcomes as a result of increased use of technology, within the diabetes in pregnancy team in the National Maternity Hospital for women with Type 1 Diabetes Mellitus. We focused on how increased use of CGM technology has contributed to improved clinical outcomes and enhanced patient engagement.

METHODS

A retrospective cohort study was conducted at the National Maternity Hospital to evaluate maternal and fetal outcomes in pregnancies complicated by Type 1 Diabetes Mellitus (T1DM). Data was collected for all women with a diagnosis of T1DM who were referred to the service during 2021 and 2023.

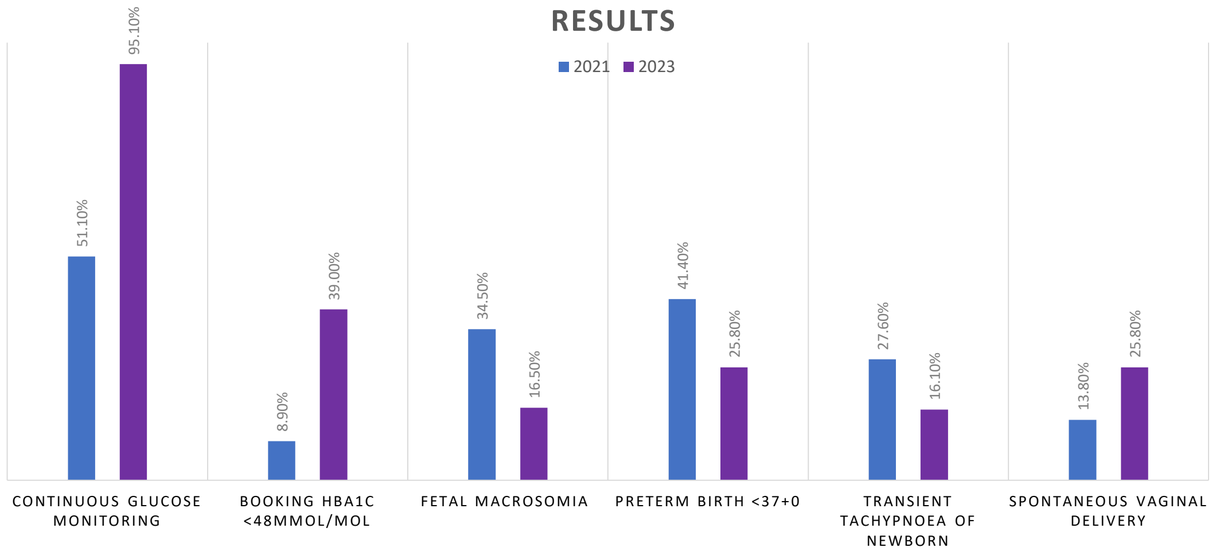
Electronic medical records were reviewed to extract demographic data, glycaemic control parameters (including HbA1c at booking), CGM usage, and diabetic complications (hypoglycaemia, diabetic ketoacidosis). Pregnancy outcomes assessed included gestational age at delivery, mode of delivery, birth weight, neonatal hypoglycaemia, NICU admission, and perinatal complications.

The study compared cohorts from 2021 and 2023 to evaluate the impact of evolving care models. Between these two periods, significant innovations were introduced, including expanded use of continuous glucose monitoring (CGM), structured virtual diabetic care pathways, and routine use of telemedicine consultations. Comparative analysis was conducted to assess changes in diabetic control and pregnancy outcomes, with a focus on identifying improvements attributable to the integration of digital health technologies.

RESULTS

During the study period, there were 86/16,126(0.5%) women with T1DM booking and 60/14,458(0.4%) delivered at NMH. Between 2021-2023, the rate of continuous glucose monitoring significantly increased from 23 (51.1%) to 39 (95.1%, p<0.001). Target HbA1c at booking(<48mmol/L) also significantly improved from 4(8.9%) to 16(39.0%, p=0.002).

Trends in reduction of pregnancy morbidity were seen in the context of this improved glycaemic control. Non-significant reductions were seen between 2021 and 2023 in rates of fetal macrosomia (34.5% to 16.5%,p=0.112), preterm birth (41.4% to 25.8%,p=0.358) and transient tachypnoea of newborn (27.6% to 16.1%,p=0.102). There was a non-significant trend towards spontaneous vaginal delivery (13.8% to 25.8%,p=0.250) and reduction in operative vaginal delivery (20.7% to 9.7%,p=0.237).



Conclusion

Glycaemic control in women with Type 1 Diabetes Mellitus significantly improved in 2023 compared to 2021, coinciding with a substantial increase in the use of continuous glucose monitoring. This improvement was associated with a trend toward better pregnancy outcomes. Notably, at the National Maternity Hospital, rates of adverse outcomes—including preterm birth and neonatal morbidity—were significantly lower than international benchmarks, highlighting the effectiveness of the current care model.

"Does a Joint Multidisciplinary Approach to Infant Feeding in a Neonatal Unit Lead to a Reduction in Outpatient Clinic Visits for High Risk Infants Born Preterm?"

Zelda Greene[1], Lorna O'Connor[2], Jessica Smith[2], Vanessa Winn[2], Sarah Browne[2], Ramita Dangol[3], Sara Rock[4], Geraldine Walshe[4], Shirley Moore[4], Cillian Power[5], Roberta McCarthy[2]
[1]Speech and Language Therapist,[2]Department of Clinical Nutrition and Dietetics [3]Lactation Support Service, Dublin [4]Neonatal Nursing, [5]Clinical Data Analyst,
National Maternity Hospital, Holles Street, Dublin 2

BACKGROUND

For infants in neonatal care, learning to feed can be complex and is an important discharge criteria. Internationally up to 40% of preterm infants are reported to have ongoing feeding difficulties post-discharge which have a negative impact infants and their families and require ongoing costly follow up and care. Early interventions to support transitions to oral feeding in this group are described.

In 2022 we were experiencing high levels of out-patient clinic consults for infant feeding difficulties post discharge, demanding significant input and time.

In an effort to address this, we focused efforts on aspects of the inpatient oral feeding journey to facilitate oral feeding transitions pre-discharge, aiming to reduce burden of feeding difficulties at home.

Current policy includes 1-2 scheduled Baby Clinic (BC) appointments post discharge from the neonatal unit – for infants up to 12 weeks corrected age.

AIMS

To determine if infant attendance at out-patient clinics is reduced after a focused period of inpatient multidisciplinary initiatives to support infant feeding transitions.

METHODS

Population: All infants born very preterm ≤32^{+0} weeks gestation or ≤ 1500 g birth weight who attended NMH out-patient clinic Jan 2022 – Dec 2024.

Intervention: Changes to teats, dedicated lactation support, staff education, breast and bottle-feeding protocols, parent guidance and tools, feeding journey posters, re-formation of an infant feeding committee with hospital-wide MDT representation, standardised SLT feeding assessment and interventions with parents, individualised dietetic guidance and feeding plans for home provided pre-discharge, and establishment of a post-discharge online dietitian, SLT and neonatal lactation Clinical Nurse Manager led parent class.

Comparison: 2022 vs 2023 and 2024 cohorts

Outcome : Number of infants who attended (1) Baby Clinic (BC) and (2) Dietetic Clinic (DC), ≥3 times up to 12 weeks corrected age.

RESULTS

Table 1: Clinic Attendance Data	2022	2023	2024
	N	N	N
Total infants born ≤32^{+0} or ≤ 1500 g	112	103	98
Total Baby Clinic (BC) attendances	224	107	70
Infants who attended BC up to 12 weeks corrected age	49	43	45
Infants with ≥3 attendances at BC up to 12 weeks corrected age	31 (63%)	25 (58%)	24 (53%)
BC attendances per infant number	2.0	1.0	0.7
Total Dietitian Clinic (DC) attendances	123	62	50
Infants who attend DC	38	12	12
Infants with ≥3 attendances at DC	13	3	3
DC attendances per infant number	1.1	0.6	0.5

Over the 3 year period, the number of high risk infants attending BC ≥3 times in first 3 months reduced by 154 (69%), from 224 to 70; and the DC attendances reduced by 73 (59%), from 123 to 50.

Conclusion

A multidimensional multidisciplinary approach to support pre-discharge oral feeding transitions and dietary guidance in neonatal care appears to reduce attendances at Baby Clinic and Dietetic Clinic. This may be associated with cost savings. Staff and parent feedback is also positive. The reduction in reactive out-patient clinic demand allows more time for preventative in-patient activity. This shows improved efficiency. Reduction of feeding difficulties in high risk preterm infants is important for families and services. Our findings support extending this intervention to a wider cohort, including infants born moderate to late preterm who are also at higher risk of feeding challenges. This work has already begun.

Audit of Iron Intakes and Anaemia Among Pregnant Women with Inflammatory Bowel Disease (IBD)

The National Maternity Hospital
Vita Gloriosa Vita ~ Life Glorious Life

Laura S. Harrington, Anna Moran, Ailbhe Harrington and Sinead Curran

Department of Clinical Nutrition and Dietetics

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Background

Women with inflammatory bowel disease (IBD) are at increased risk of anaemia due to disease state, increased requirements and inadequate intakes of iron and other nutrients (vitamin B12 and folate). Women with IBD are higher risk for post-partum haemorrhage (PPH), premature rupture of membranes (PROM) and more likely to require Caesarean section. (Biron et al 2023; Prakash et al 2024) The European Crohn's and Colitis Organisation (ECCO) consensus guidelines advise that oral iron is effective in people with IBD with mild anaemia, clinically inactive disease and not previously intolerant to oral iron (Dignass et al 2015) Current NMH guidance on managing iron-deficiency anaemia (IDA) in pregnancy is to advise Galfer or Ferrograd daily. However, oral iron supplements can cause unpleasant GI side effects and worsen active disease state, which can make it more difficult for women with IBD to achieve adequate iron intakes preconception and during pregnancy.

Aims

To assess iron supplementation use and incidence of anaemia in pregnant women with IBD (Crohn's disease and ulcerative colitis) attending the dietitian in NMH compared with ECCO guidelines and its impact on birth outcomes, with a view to addressing barriers to iron supplementation or provision in this cohort.

Methods

Study design
Clinical audit of medical records (MN-CMS)
Inclusion criteria
- Pregnant women with IBD (Ulcerative Colitis or Crohn's Disease) referred to dietitian
- Delivered Jan 2023–Dec 2024
- Attended ≥1 dietetic appointment

Data source
- Maternal and Newborn Clinical Management System (MN-CMS)

Outcomes measured
- Number attended dietitian
- Oral iron use
- Average gestation iron started
- Reasons for not taking oral iron
- Incidence of anaemia (Hb <10.5g/dL)
- IV iron administration
- Delivery and postpartum outcomes

Results

Dietitian Attendance	**30** pregnant women with ulcerative colitis or Crohn's disease attended ≥1 dietitian appointment
Oral Iron Supplementation	**21** women reported taking oral iron supplementation at any point in pregnancy
Average gestation oral iron started	24.2 weeks gestation
Reasons for not taking oral iron (n=9):	
• Not anaemic	5
• Not tolerated	4
Incidence of anaemia (Hb <10.5 g/dL) at any gestation	**40.0%** (12 women)
Flare of IBD during pregnancy + anaemia	4
Flare pre-conception + anaemia	0
Vitamin B12 deficiency + IDA	3
IV Iron Infusion	**5** women required IV iron
Types of delivery & postpartum outcomes	
• Caesarean section	10 (33.3%)
• Estimated blood loss (EBL) > 500ml and < 1000ml	11 (36.7%)
EBL > 500ml <1000ml + anaemia during pregnancy	*7 (63.6%)*
• Estimated blood loss (EBL) ≥ 1000ml	4 (13.3%)
EBL ≥ 1000ml + Anaemia during pregnancy	*4 (100%)*

Discussion

The incidence of anaemia in this cohort is higher than estimates from WHO for women in Ireland (40% vs 17%) and non pregnant people with IBD (40% vs 33%). (WHO 2024) The incidence would further increase if using ECCO consensus criteria. The high incidence may be related to a combination of poor intake, blood loss in stool or inflammation in the bowel. Of the women who took oral iron supplement at any point during pregnancy, 84% tolerated it well enough to continue taking it. Women who had a flare of IBD in pregnancy were more likely to become anaemic which may be reflective of inflammation and disease state rather than IDA.

In this group, women were twice as likely to experience PPH with blood loss of >1000ml (13.3% vs 6.0%) compared to all women in NMH 2023. (NMH Annual report 2023) All women in this group with PPH > 1000ml were anaemic during pregnancy. The numbers in this audit are small so it would be useful to gather more data in women with IBD including ECCO criteria going forward to confirm these findings.

Conclusion

The high incidence of anaemia, poor iron tolerance and PPH in this group warrant novel approaches to iron supplementation to improve tolerance, adequacy and compliance while avoiding excessive iron intake. Intermittent iron supplementation (48 hourly) may be sufficient for women who can tolerate it. (Kumar 2020) Intravenous iron should be first line for women with active IBD, severe anaemia and known poor tolerance to oral iron.

Local guidelines can be drafted and implemented for the management of anaemia in women with IBD in the maternity setting to include ECCO guidance for more patient specific management.

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Improving the Care of Women Undergoing Unplanned General Anaesthesia for Caesarean Sections: A Quality Improvement Project

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BACKGROUND:

While neuraxial anesthesia is the preferred technique for caesarean sections (CS), general anesthesia (GA) remains necessary in some scenarios. An initial audit revealed good compliance with GA rates but highlighted issues in documentation of urgency, prophylactic antacid use, truncal blocks, and post-discharge follow-up.

AIMS:

To improve the care of women undergoing unplanned GA for CS by:

- Enhancing documentation of urgency(CAT 1 to CAT 4)
- Ensuring appropriate antacid administration
- Increasing truncal block use when indicated
- Improving post-discharge follow-up rates

METHODS:

- Retrospective review of GA cases for CS over 2022–2023
- Re-audit conducted for 2024 data post-intervention

Authors and Affiliations
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3.Consultant anaesthesiologist , National Maternity Hospital ,

RESULTS:

- GA Incidence: 2.4% (2022–23) vs 3.8% (2024)
- Elective GA: 1.3% vs 1.08%
- Emergency GA: 3.6% vs 6.2%
- RA to GA conversion: 0.89% vs 1.9%
- Urgency documentation: improved from 74.4% to 100%
- Truncal block use (no neuraxial opioids): 7.62% vs 2%
- Antacid use: 59.3% vs 4.1%
- Follow-up: 47% attended, 5.2% declined

CONCLUSION

GA for CS remains within international standards at our institution. Significant improvement was achieved in documentation of CS category urgency. However, persistent gaps exist in the administration of prophylactic antacids, use of truncal blocks, and post-discharge follow-up rates. Continued multidisciplinary education, policy reinforcement, and auditing are essential. Future work will explore patient-centered approaches to enhance clinic follow-up and electronic reminders for antacid administration.
This project underscores the importance of iterative quality improvement cycles in maternal anesthetic care.

Evaluating the Impact of Antenatal Breastfeeding Education: A Study on Women's Confidence and Breastfeeding Outcomes in the Domino and Homebirth Service

The National Maternity Hospital
Vita Gloriosa Vita ~ Life Glorious Life

Authors: Eimear O'Connor, Bronwyn Nicol, Katie Cosgrove, Teresa Mc Creery

Backround

- The Domino and Homebirth service provides midwifery-led continuity of care during the antenatal, intrapartum and postnatal periods for women of low risk.
- Antenatal education is a vital part of our service, designed to help women and their partners prepare for labour and parenthood.
- Our antenatal breastfeeding classes were introduced three years ago in response to an identified need for antenatal breastfeeding education.
- The 2-hour, bi-monthly in person class covers breastfeeding benefits, techniques, and common challenges aiming to support a successful breastfeeding journey.

Aims

- To explore the experiences of women who attended our antenatal breastfeeding education class, and to assess the impact of these classes on their breastfeeding journey.

Methodology

- An anonymous questionnaire was developed to evaluate the effectiveness and impact of the class
- The questionnaire consisted of 12 questions designed to capture qualitative feedback and was promoted through our social media platforms
- Responses were collected via an online survey, incorporating open-ended questions to gather qualitative insights.
- A total of 70 women who attended the class responded to the survey

Comments from Women

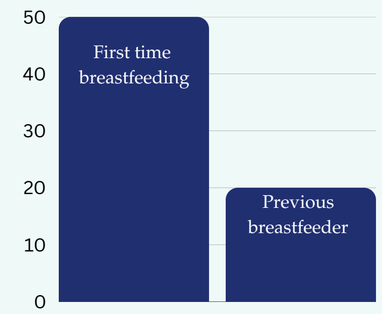
"Yes ! It really helped starting my breastfeeding journey"

"It was comforting to know how pro breastfeeding Domino is so I knew I'd have the support"

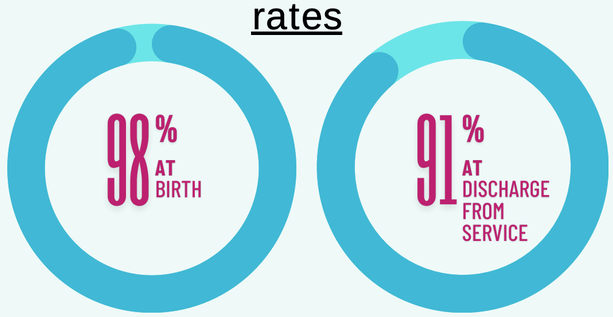
"The Colostrum set was excellent"

Results and Findings

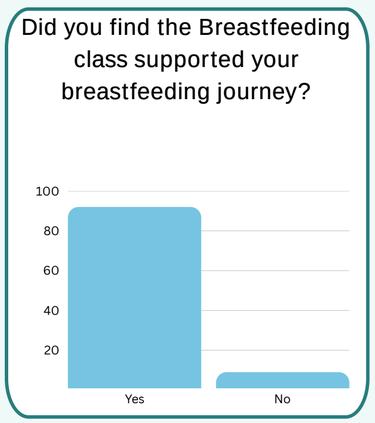
70 participants



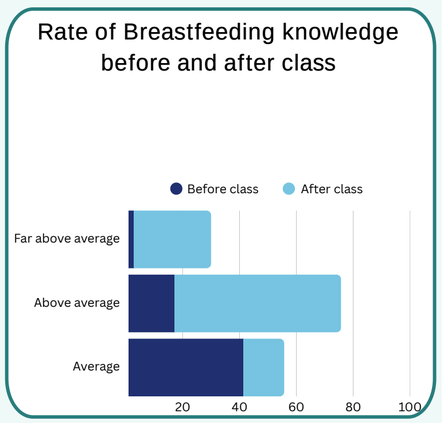
Domino breastfeeding rates



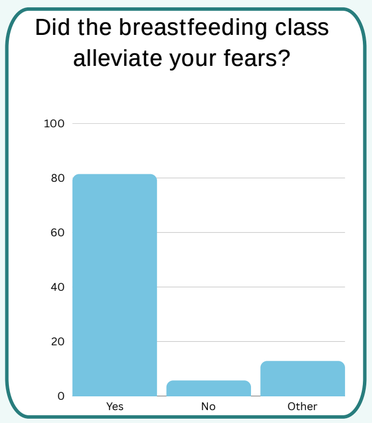
Increased breastfeeding Rates



Improved knowledge



Improved self efficacy



Conclusion

- Attending an antenatal breastfeeding class positively influences a woman's breastfeeding journey. Antenatal breastfeeding education enhances a mothers confidence (self-efficacy) and notably reduces her fears which leads to higher breastfeeding rates.