

# Feeding the moderate-late preterm baby: the DIAMOND trial

**Dr Tanith Alexander**

*Neonatal Dietitian and Research Fellow*







# Recommendations

- The American Academy of Pediatrics (AAP), the National Perinatal Association and the Academy of Breastfeeding Medicine
  - Importance of nutritional support and feeding
  - Emphasis on breastmilk feeding
  - No recommendations or guidelines for feeding moderately preterm infants
- ESPGHAN Position Paper 2019
  - Strongly endorses breast milk
  - Enhanced nutritional support may be required
- National Institute for Health Care and Excellence (UK)
  - Intravenous nutrition > 31 weeks' if 'sufficient' progress in enteral feeds not made
- AAP and ESPGHAN
  - Research gaps and align with research priorities

# DIAMOND

## Different Approaches to Moderate- & late-preterm Nutrition: Determinants of feed tolerance, body composition and development<sup>1</sup>

- Inclusion criteria
  - 32<sup>+0</sup> – 35<sup>+6</sup> weeks' gestation
  - Mother intends to breastfeed
  - Admitted to neonatal unit
  - IV inserted for clinical reasons
- 8 conditions
- Consent within 24 hours of birth
- Five neonatal care units in NZ

Factor 1	Factor 2	Factor 3
Parenteral nutrition (PN)	Mothers own milk only (MOM)	Taste/smell
Dextrose	Milk supplement	No taste/smell

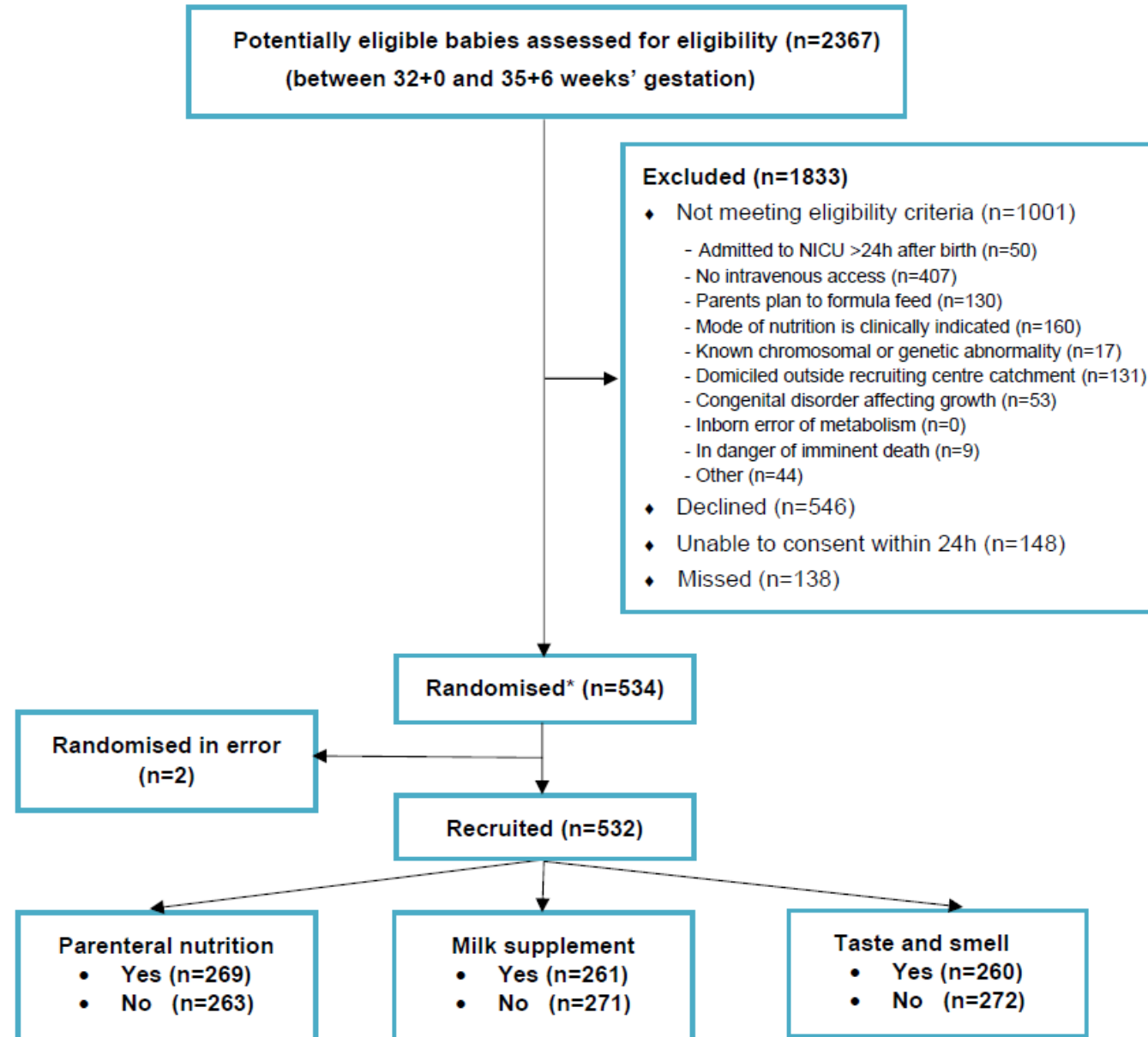


# Primary Outcome

- Factors 1 (IV fluids) and 2 (Enteral nutrition)
  - Body composition at 4 months' corrected age measured by air displacement plethysmography (APD) using the PEA POD or skinfold measurements
- Factor 3 (Taste and smell)
  - Time to full enteral feeds



# DIAMOND Consort





# Nutritional management of moderate- and late-preterm infants commenced on intravenous fluids pending mother's own milk: cohort analysis from the DIAMOND trial

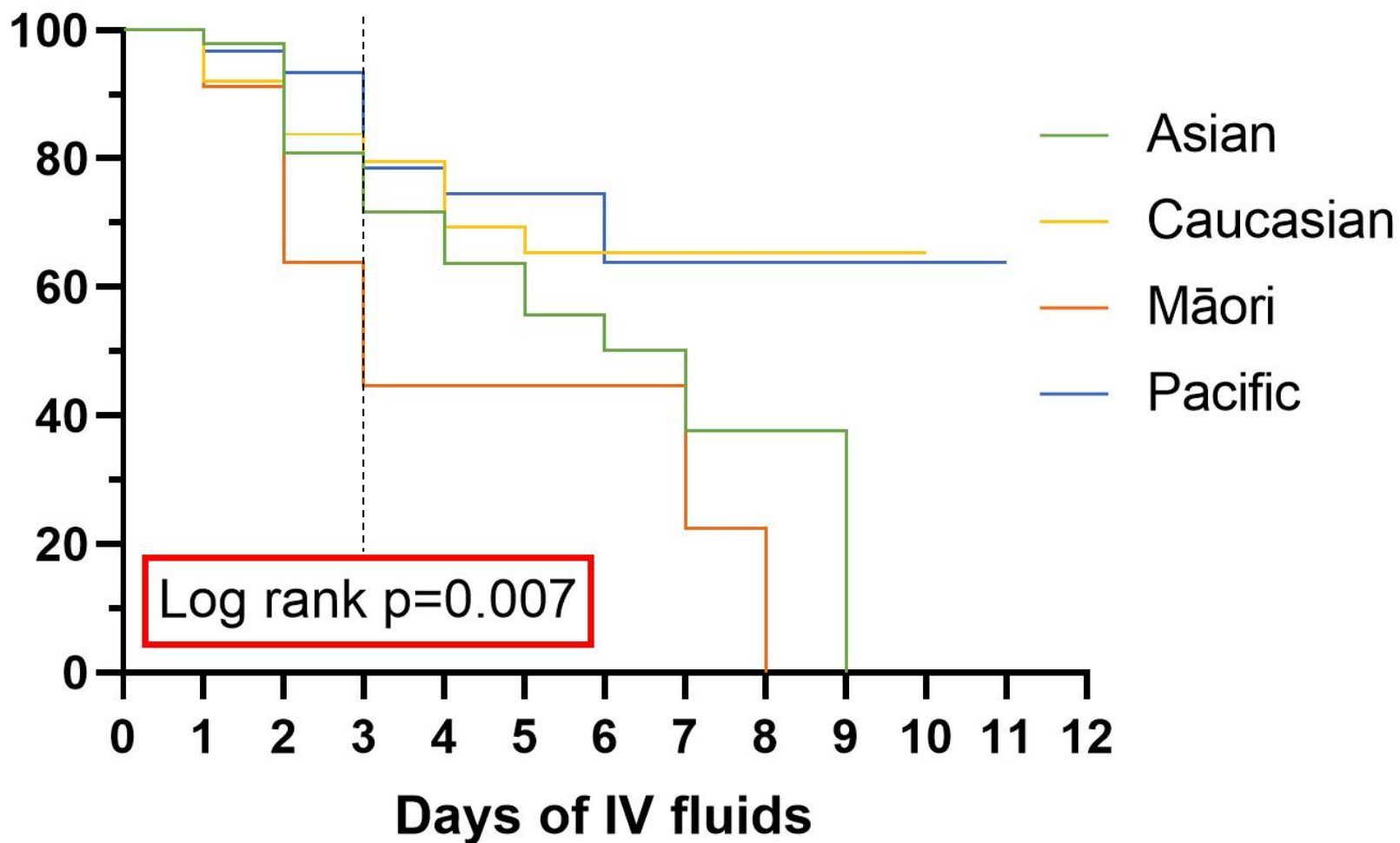
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## Days to alternative nutrition: ethnicity

% of babies on IV fluids  
receiving only mothers own  
milk as enteral feeds



# Breastmilk feeding at discharge by ethnicity

		Breastmilk feeding at discharge N (%)		p value
		No	Yes	
Ethnicity	Māori <sup>#</sup>	11 (48)	12 (52)	0.04
	Pacific	8 (26)	23 (74)	
	Asian	14 (30)	33 (70)	
	Caucasian <sup>#</sup>	8 (16)	42 (84)	

# Māori significantly less likely to receive breastmilk at discharge compared with Caucasian (p<0.01)

# Conclusions

- Māori babies least likely to receive breastmilk
  - Social?
  - Unconscious bias and systemic racism?
- Quality initiatives to support and encourage mothers to provide breastmilk
  - Specific focus on Māori mothers
- Limited research on the nutritional management of moderate to late preterm babies

# Future directions

- DIAMOND primary outcome paper end of 2022
- Qualitative research study
  - Explore mothers views and experiences
  - Health professionals to assess drivers behind variation
- Investigate nutritional intake in hospital and growth/body composition at discharge
- DIAMOND 2 year follow-up ongoing
- DIAMOND 7 year follow-up planned to commence 2024



# Acknowledgements

- DIAMOND Research team
- Research nurses
- Hospitals and staff
- Whānau and pēpi



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# Thank you

