Human Nutrition Programme,
School of Agriculture and Food Science

Growth and Feeding Among Infants Born at Different Stages of Prematurity

Ailbhe Harrington, Sarah Browne, Jessica Smith, Vanessa Winn, Lorna O'Connor, Jessica Meates, Roberta McCarthy.
Dept. of Clinical Nutrition and Dietetics, National Maternity Hospital, Holles St., Dublin 2

Background

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

Aim

- Describe the demographics, feeding practices and rate of growth faltering (GF) among infants born preterm during their inpatient (IP) stay and post discharge (DC) home - recorded as an outpatient (OP), at NMH
- Compare the data across the 3 sub-groups based on GA: VP, MP and LP.

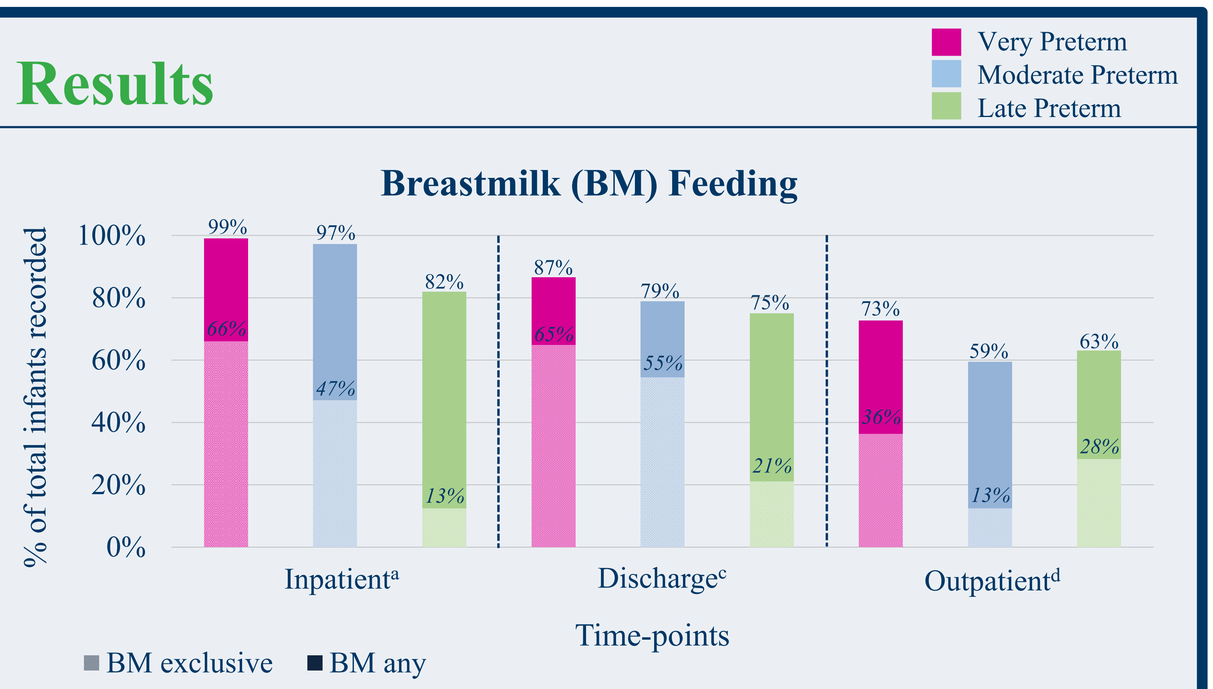
Methods

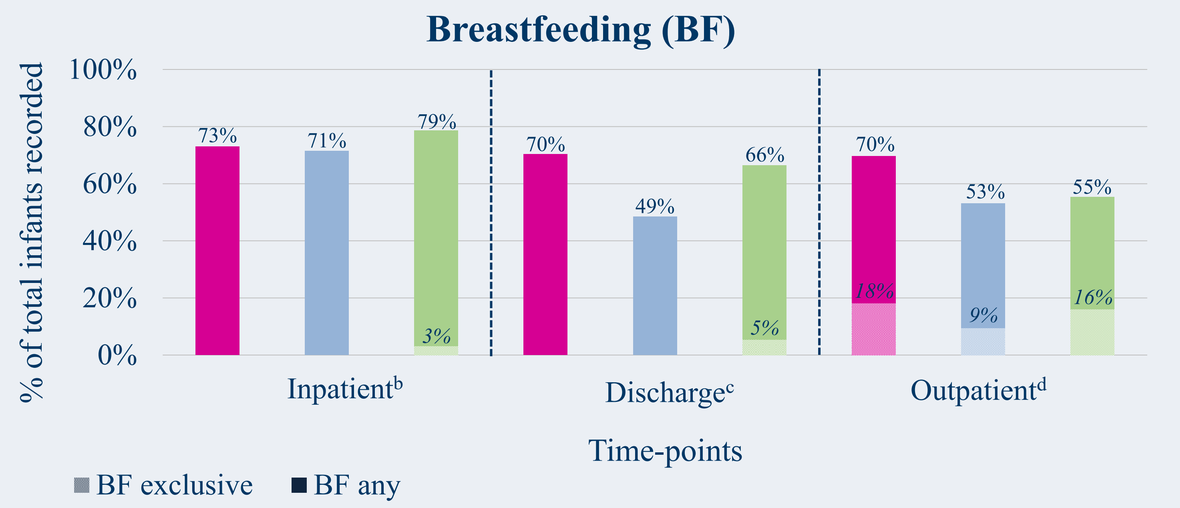
Setting - Tertiary Level Hospital
- Single centre retrospective cohort study.
- IP - Neonatal or Postnatal Unit; and OP - Baby Clinic.

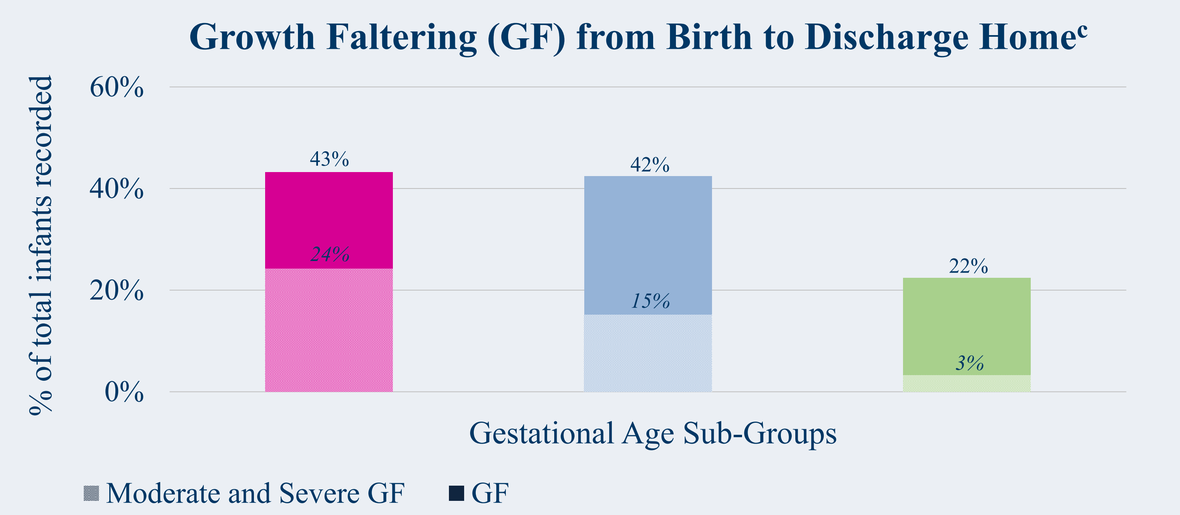
Population – Infants born Preterm
- VP born Jan-Dec 2023; MP and LP born Jul-Dec 2023.
- Admitted as IP ± attended OP clinic at NMH.

Data – Demographics, Feeding Practices and Growth
- Collected from electronic patient records (MNCMS).
- Recorded during IP stay, at time of DC home, and post-DC as OP.

Results







- VP have the highest BM feeding and BF rates at most time points.
- MP consistently show lowest BF rates.
- GF rates are similarly high in VP and MP.

VP n=101; **MP n=38**; **LP n=165**.
[a]Among infants who received feeds, VP n=97; MP n=36; LP n=160.
[b]Among infants who received oral feeds, VP n=63; MP n=35; LP n=159.
[c]Among infants discharged home - all received feeds, VP n=37; MP n=33; LP n=152.
[d]Among infants with feeding recorded as OP, VP n=33; MP n=32; LP n=94.

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

Conclusion

- Clear variations in outcomes across the three sub-groups of prematurity.
- MP consistently show the lowest rates of BF - as IP, at discharge home and as OP.
- MP have high rates of GF that more closely match VP than LP.
- MP and LP have lower rates of BM feeding and BF compared with VP.
- This may reflect the additional attention given to VP, and the efforts of our PRIME/ PRIME-B multidisciplinary quality improvement initiative focused on promoting BM and BF in the neonatal unit particularly.
- Our findings suggest that MP and LP may be an overlooked group.
- Given their lower BM and BF rates, and the high GF rate among MP, additional input is warranted to improve feeding practices and growth among infants born MP and LP.

CONTACT
ailbhe.harrington@ucdconnect.ie