



The Canadian Neonatal Network™/Le Réseau Néonatal Canadien™

2025 CNN-CPTBN Annual Meeting

Research Proposal

Defining important process and outcome measures for moderate and late preterm infants (MLPI) from the perspectives of parents, healthcare practitioners, healthcare administrators and institutions

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Background

MLPI represent 85% of all preterm birth in Canada (1). According to the CNN, MLPI constituted 36% of admissions to the participating NICUs in 2022 (2). MLPI are at increased risk of significant morbidities (3, 4) including hypothermia (3, 5, 6), respiratory distress syndrome and transient tachypnea of the newborn (7), early-onset sepsis (8), feeding challenges (9), and rehospitalization within 30 days after discharge (10, 11). In addition, MLPI are at increased risk of long-term motor and cognitive impairment and learning difficulties (12-15). Moreover, families of preterm infants often face significant long-term financial, social and emotional burdens beyond what is required for a healthy full term infant (16). The experience associated with preterm birth, including parents of MLPI, can lead to symptoms of post-traumatic stress disorder (17, 18), and anxiety, depression, anger and stress (19). While reducing mortality, and other major morbidities such as intraventricular hemorrhage, bronchopulmonary dysplasia, retinopathy of prematurity, and necrotizing enterocolitis are the main outcome measures for very preterm infants, there are no standardized process and outcome measures for MLPI. Recent studies attempted to define some measures (20, 21), there is no consensus on these measures.

Aim

To define clinically and administratively meaningful process and outcome measures for MLPI.

Design

Mixed method prospective study in NICUs that care for MLPI including Level II-IV units.

Inclusion criteria

- Parents of current or discharged preterm infants born at 32-36 weeks' gestation.
- Healthcare providers who care for MLPI including physicians, nurses, RTs, other allied health professionals.
- Unit administrators.

Exclusion criteria

- Parents of MLPI with major congenital anomalies or who are critically ill and might die during the admission.

Instruments

We will use questionnaires, semi-structured interviews, and possibly, focus groups to gain understanding of what are the meaningful process and outcome measures for MLPI. The initial questionnaire will focus on defining meaningful and important outcomes from patient-wellbeing, family and parent wellbeing, and system resource utilization perspectives. Examples of process and outcome measures that we anticipate to appear include: 1) delivery room management such as deferred cord clamping and early skin to skin care; 2) location of care for late preterm infants in the NICU versus postpartum units as the gestational age and birth weight cut offs varies widely between units impacting resource utilization, time to discharge home, readmission rates, and other outcomes (21); 3) initiation and progression of feeding; 4) time to achieve full nipple feeding; 5) time to discharge home; and 6) utilization of healthcare resources after discharge. Participants in the questionnaire will be invited to provide contact information to participate in semi-structured interviews for healthcare providers and administrators and



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focus groups for parents. These interviews and focus groups will aim to refine the important process and outcome measures and obtain a deeper understanding of the participants' perspectives.

Feasibility and progress

We aim to have a representation from all Canadian provinces including urban and rural centres and will seek funding from the CIHR and other local, provincial, and national organizations to support this work.

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