Neonatal Hypothermia Following Intra-hospital Transport within First Day of Life: Greater Awareness and Action Needed

**Introduction**

Neonatal hypothermia: Temperature ≤36°C

Measures to prevent hypothermia immediately after birth

Hypothermia is common in infants undergoing intra-hospital transport

Increased morbidity & mortality among sick infants in SCBU or NICU

Special Care Baby Unit (SCBU)
Neonatal Intensive Care Unit (NICU)
Objective

(1) Examine the occurrence of hypothermia among inborn infants at SCBU / NICU admission

(2) Determine the factors associated with hypothermia following intra-hospital transport
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Methodology

- A prospective cohort included all inborn infants admitted to SCBU / NICU in a regional hospital from January 2016 to June 2016.

- Design a data collection form for recording relevant information and complete it immediately after admission.
# Results

<table>
<thead>
<tr>
<th>Patients’ characteristics (N=833)</th>
<th>Count (%) / Mean ± SD</th>
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</thead>
<tbody>
<tr>
<td>Full-term infants</td>
<td>483 (58%)</td>
</tr>
<tr>
<td>Birth weight (BW; kg)</td>
<td>2.57 ± 0.75</td>
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<tr>
<td>Gestation age (week)</td>
<td>36.53 ± 3.40</td>
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<tr>
<td>Body temperature (BT; °C)</td>
<td></td>
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<tr>
<td>Before transfer</td>
<td>36.96 ± 0.61</td>
</tr>
<tr>
<td>On admission</td>
<td>35.39 ± 0.42</td>
</tr>
</tbody>
</table>

- **30%** of the newborn infants (252 out of 833) transferred from the delivery suite or postnatal ward moderate hypothermia on arrival of the SCBU or NICU necessitate active warming.

- **Vehicle for transport**: incubators (95%) and cots

- **Preterm** infants and infants who were born by cesarean delivery more likely to suffer from hypothermia.

- **Significant correlation** between BW and BT on admission \((r=0.50, p=0.01)\) suggesting newborn infants with **low BW** were more vulnerable to hypothermia.
A neutral thermal environment is essential to ensure minimum oxygen consumption and energy expenditure among sick newborn infants.

Measures to avoid hypothermia is essential even during a short-distant transport and regular review to evaluating admission temperature is warranted.

The study units are currently evaluating an evidence-based transport protocol emphasizing on thermal control to decrease the incidence of hypothermia.