

The reality of nutrition  
in clinical practice:  
**The Latin American Perspective**

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Encuesta Latinoamericana de Nutrición en  
Cuidado Intensivo Pediátrico  
(ENLAN-CIP)

**Latin American Survey on Nutrition  
in Pediatric Intensive Care**

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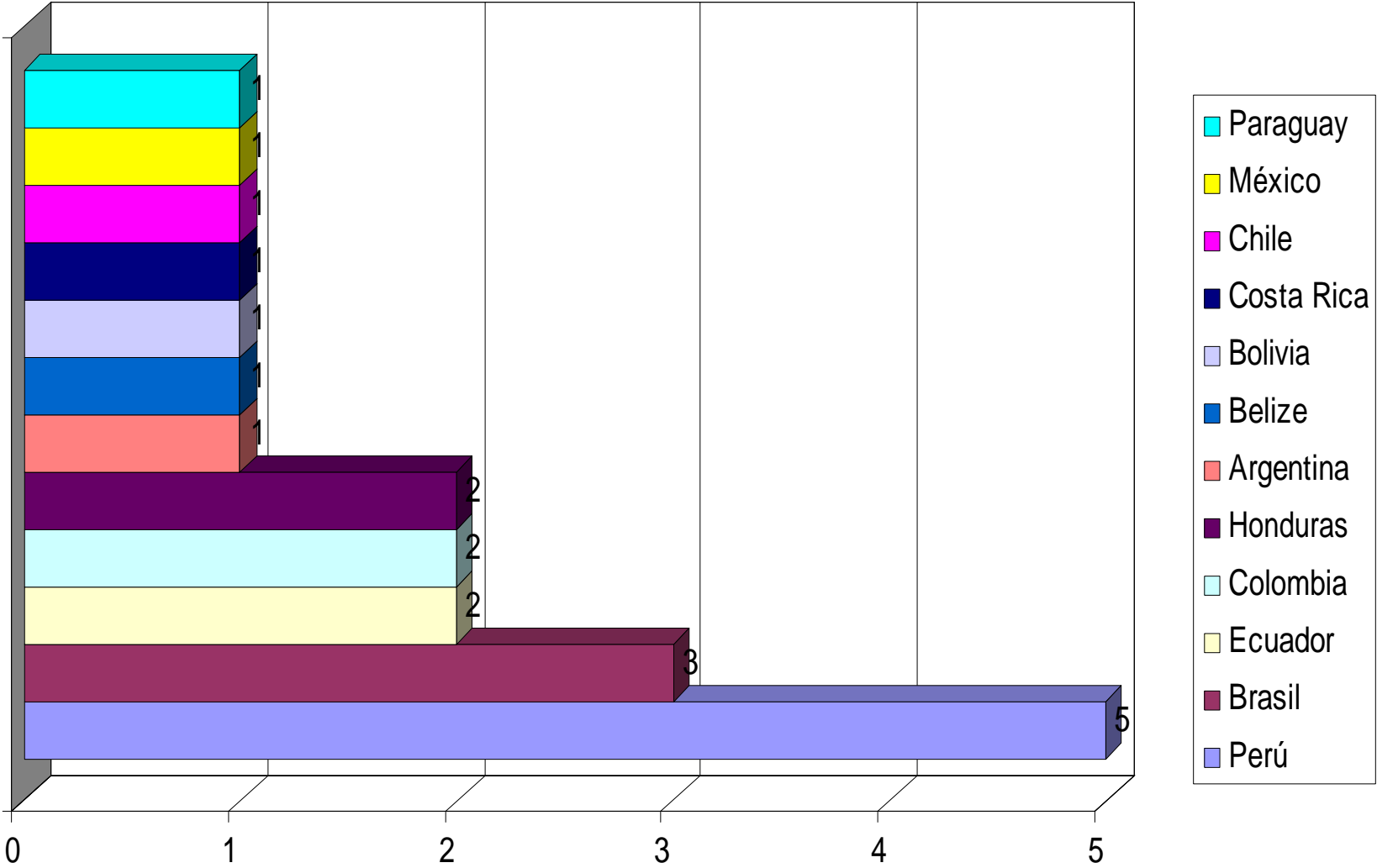
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# Participant countries

- Argentina
- Belize
- Bolivia
- Brazil
- Colombia
- Costa Rica
- Chile
- Ecuador
- Guatemala
- Honduras
- Mexico
- Paraguay
- Peru
- Uruguay

# Participant PICUs



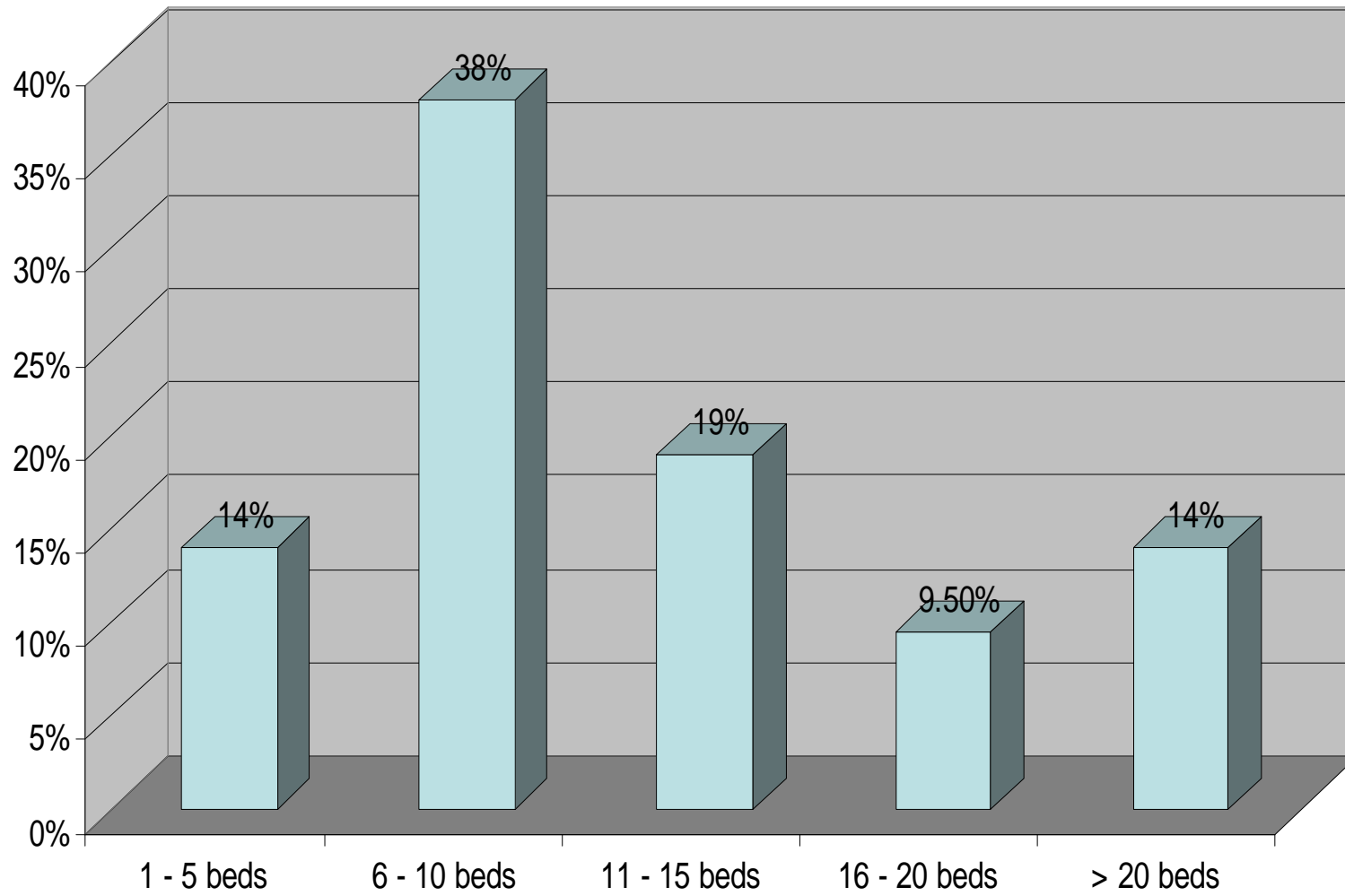
# Participant PICUs

- 21 PICUs
  - Public Hospital 71%
  - Private Hospital 19%
  - University Hospital 57%

# Participant PICUs

- Pediatric Residency Program 81%
- Pediatric Intensive Care Fellowship Program 52%

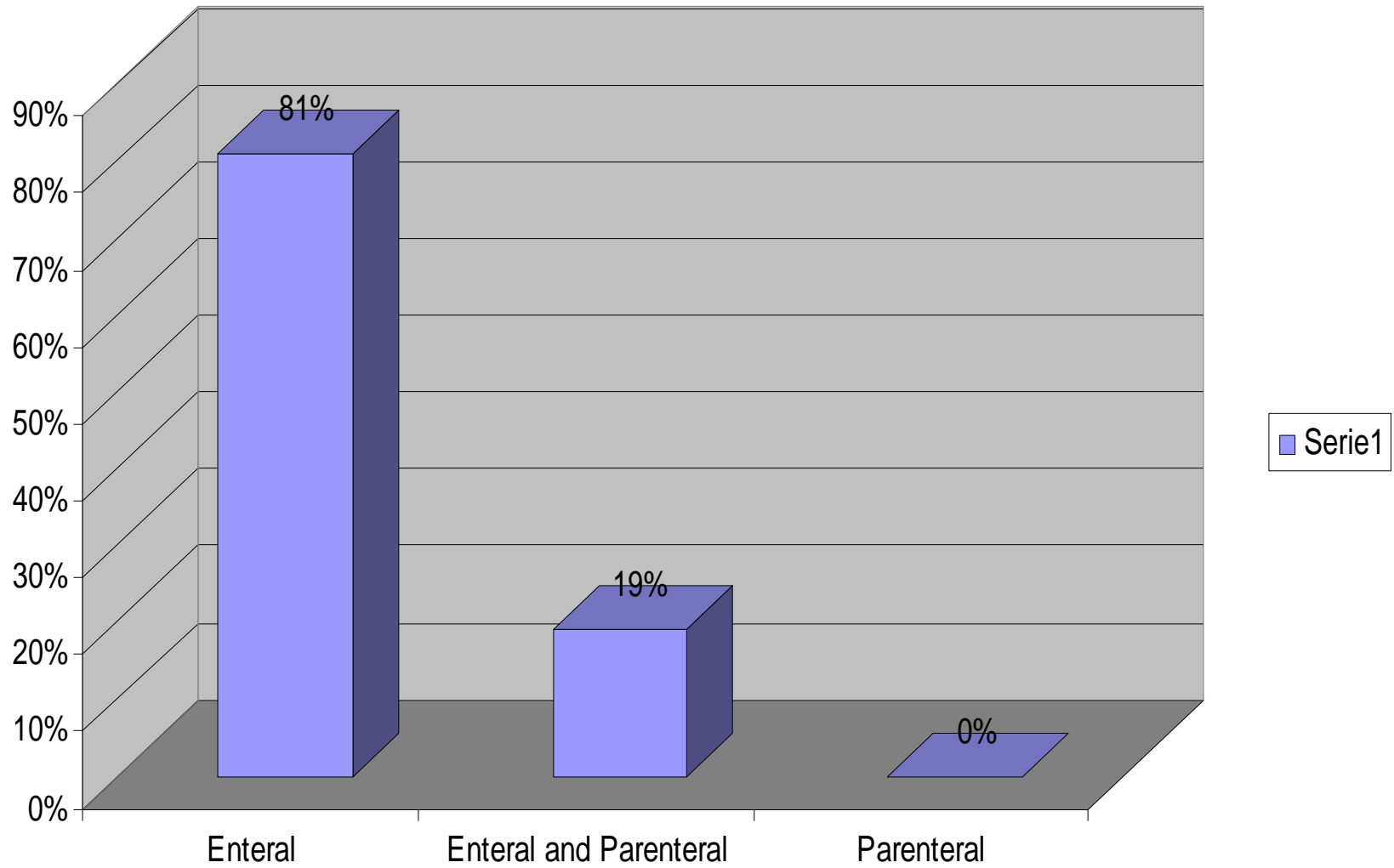
### Available beds



# Type of patients

- Pediatric patients only 28%
- Pediatric *and* neonatal patients 62%
- Medical and surgical patients 100%

## Preferred Type of Nutritional Support



# Enteral nutrition: route

- Naso-gastric or oro-gastric 76%
- Post-pyloric 24%

# Patient positioning

- Supine 57%
- Semi-recumbent 33%
- Both 4.7%
- Prone 0%

# Gastric nutrition: administration

- As continuous infusion 19%
- As intermittent bolus 57%
- Both 9.5%

## Method of gastric feeding

- By gravity 4.7%
- Infusion pump 33%
- Both 14.3%

# Monitoring of gastric residual volume

- During **gastric feeding**:
  - Always 71%
  - Occasionally 24%
- During **post-pyloric feeding**:
  - Always 33%
  - Occasionally 28%
  - Never 28%

# Monitoring of gastric residual volume

- **Frequency of measurements:**
  - Every 2 – 3 hours 57%
  - Every 4 hours 14%
  - Before each feeding 9.5%

# Monitoring of gastric residual volume

- **When is it significant?**

> 20% the administered volume	43%
> 30% the administered volume	38%
> 50% the administered volume	14%

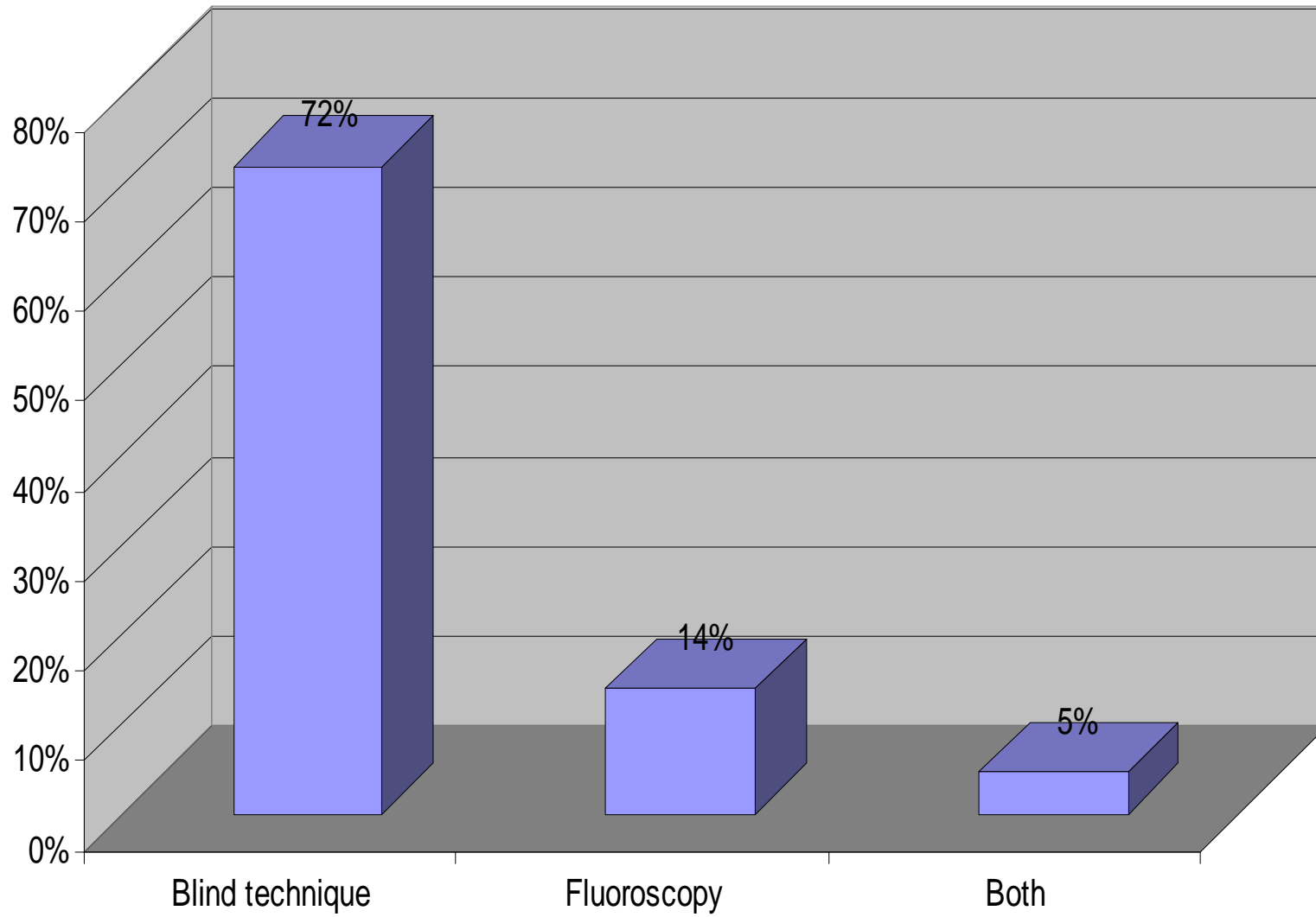
# Other forms of monitoring

- Measurement of the abdominal perimeter:
  - Always 38%
  - Occasionally 52%
- Inspection of the abdomen for distention:
  - Always 90%
  - Occasionally 10%

# Confirmation of the position of the tube

- Abdominal radiography for **gastric tubes**:
  - Always 33%
  - Occasionally 38%
  - Never 24%
- Abdominal radiography for **enteral tubes**:
  - Always 86%
  - Occasionally 5%
  - Never 5%

## Technique of positioning of the enteral tube



# Technique of positioning of the enteral tube

- Right lateral decubitus 41.6%
- Left lateral decubitus 16.6%
- Semi-recumbent position 8.3%
- Prokinetics 41.6%
- Air insufflation 16.6%
- Serial pH measurements 25%
- Abdominal compression 8.3%

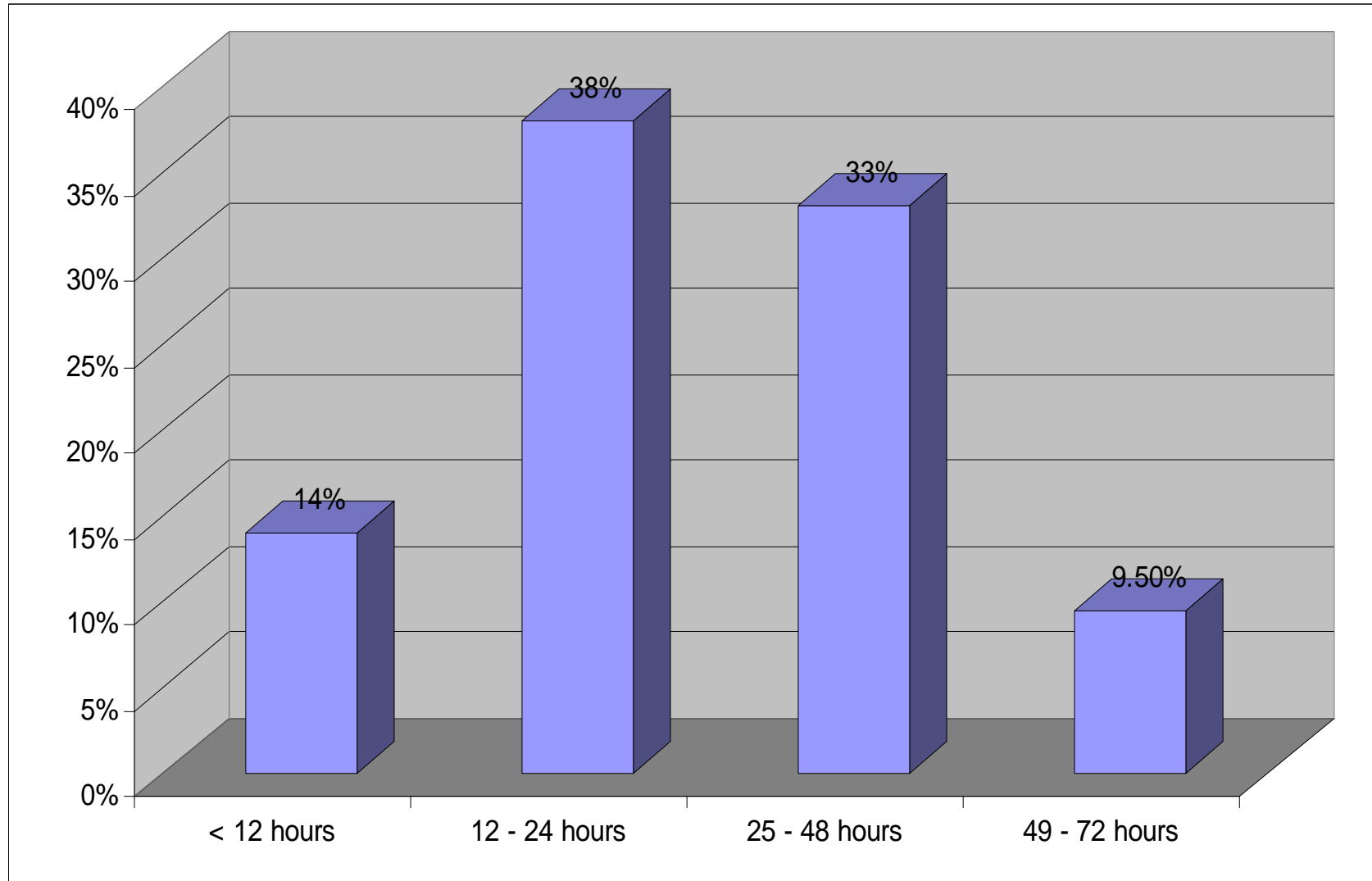
# Enteral feeds

- Breast milk 38%
- Breast milk or infant formula 9.5%
- Low lactose formula 9.5%
- Specialized formula 9.5%
- Standard infant formula 4.7%

# Enteral feeds

- Maltose-dextrin 14.2%
- Proteins 14.2%
- Oil or MCT 9.5%
- Maltose-dextrin *and* oil or MCT 19%
- Proteins *and* oil or MCT 4.2%
- Mix combination 28.5%

# Enteral nutrition: when is it started?



# Enteral nutrition: where is it prepared?

- In the Pharmacy 19%
- In the PICU 24%
- In the Nutrition Service 47%
- Other 4.7%

# Parenteral nutrition: vascular access

- Central vein 76%
- Peripheral vein 24%

## Central venous access

- Internal jugular 38%
- Subclavian 9.5%
- Femoral 4.7%
- PICC 28.5%

# Parenteral nutrition: how is it prepared?

- 3-in-1 mix 57%
- 2-in-1 mix 33%
- Each component separately 4.7%

## Parenteral nutrition: where is it prepared?

- In the PICU 28.5%
- In the Pharmacy 28.5%
- In the Nutrition Service 14.2%
- In the Operating Room 14.2%
- Other 15%

# Conclusions

- Generally, strategies are very similar.
  - Enteral nutrition is preferred over parenteral
  - The gastric route is preferred over post-pyloric
  - Early enteral nutrition is the rule
- The methods of administration and monitoring vary among the different units.

# Conclusions

- Gastric residual volume is used to evaluate the tolerance to enteral nutrition.
- It is measured with different frequency and the volume considered significant is variable.
- Trans-pyloric nutrition is seldom used and the technique of positioning of the enteral tube is variable.

# Conclusions

- Enteral formulas and parenteral admixtures are prepared in the PICU in 25% of hospitals.

# Participants

- **Argentina:** Jorge S. Sasbón
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