EVALUATION OF PARENTERAL NUTRITION COMPOUNDING THROUGH A CHECKLIST.

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BACKGROUND AND OBJECTIVES

Parenteral nutrition (PN) is a high-risk medication and its compounding process must be controlled and evaluated periodically.

Pharmacy staff must present appropriate technical skills and knowledge of aseptic technique and preparation aspects.

AIM AND OBJECTIVES

To objectively evaluate the PN compounding process by pharmacy staff, using a specifically designed checklist.

MATERIAL AND METHODS

Checklist contained 57 items: 29 related to aseptic technique and 28 regarding compounding. Each item scored 1 point; final evaluation score was calculated on a 0-10 scale.

Pharmacy technicians were divided: with experience (PN compounding for > 6 months) and without experience. Each one was evaluated by a pharmacist through direct visual inspection.

RESULTS

<table>
<thead>
<tr>
<th>CHECKLIST SCORE</th>
<th>Global (average; min; max)</th>
<th>Aseptic technique (average; min; max)</th>
<th>PN Compounding (average; min; max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>With experience (19)</td>
<td>7.9±1.09; 5.2; 9.2</td>
<td>8.5±1.14; 5.9; 10</td>
<td>7.3±1.53; 3.6; 9.4</td>
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<tr>
<td>Without experience (11)</td>
<td>7.2±1.0; 5.9; 8</td>
<td>8.9±0.5; 7.9; 9.7</td>
<td>4.8±1.5; 2.3; 7</td>
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<tr>
<td>Total (30)</td>
<td>7.65±1.0; 5.2; 9.2</td>
<td>8.6±0.94; 5.9; 10</td>
<td>6.3±1.92; 2.3; 9.4</td>
</tr>
</tbody>
</table>

Electrolyte addition sequence: 10.70%

Error prevalence was 18% (307)

- Mix incompatible electrolytes (P-Ca, P-Mg, Mg-Ca): 4.23%
- Inspect intermediate/final admixtures: 5.50%
- Mix glucose and lipids without aminoacids: 5.50%
- Renew/Disinfect gloves: 5.90%
- Mixing after additions: 7.20%
- Stable intermediate admixtures: 7.80%
- Others: 50.70%

CONCLUSION AND RELEVANCE

Evaluation of PN compounding through a specific checklist allowed us to:

- Objectively detect errors and areas of improvement.
- Reveal a lack of training in compounding aspects, more than in aseptic technique, that was greater in those PT without experience.
- Plan to implement a specific training plan to improve quality/safety of PN.

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3PC-006