Child safety in cars: An observational study on the use of child restraint systems in the Netherlands

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Introduction

- In 2017, 500 children (0-8 yrs) on Emergency Departments after car accident*
- New regulation since 2013
- In 2013: Observational study 0 - 4 yrs
  - 73% transported unsafely
- In 2018: Observational study 0 - 8 yrs

*Dutch Injury Surveillance System (DISS), administrated by VeiligheidNL*
Method

- July and August 2018
- 9 parking lots
- Interview + observation (mis)use
- Definition of misuse
  - CRS inappropriate for child (length/weight)
  - CRS wrongly installed (different variables)
  - Child improperly restrained (different variables)
Results – total observations

<table>
<thead>
<tr>
<th>Category</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (0-8 yrs)</td>
<td>470</td>
</tr>
<tr>
<td>Baby seat</td>
<td>77</td>
</tr>
<tr>
<td>Toddler seat</td>
<td>197</td>
</tr>
<tr>
<td>Booster seat/cushion</td>
<td>159</td>
</tr>
<tr>
<td>No seat</td>
<td>37</td>
</tr>
</tbody>
</table>

Child safety in cars
Results – total misuse

- 83% of the 470 children transported unsafely

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRS inappropriate</td>
<td>7%</td>
</tr>
<tr>
<td>CRS wrongly installed</td>
<td>49%</td>
</tr>
<tr>
<td>Child improperly restrained</td>
<td>59%</td>
</tr>
</tbody>
</table>

**Observations**

Child safety in cars
Results – misuse for type seat

- CRS inappropriate
  - Baby: 1%
  - Toddler: 8%
  - Child: 8%

- CRS wrongly installed
  - Baby: 54%
  - Toddler: 39%
  - Child: 58%

- Child improperly restrained
  - Baby: 37%
  - Toddler: 69%
  - Child: 57%
Results – additional

- No difference found in:
  - Gender
  - Age
  - Education
  - Minutes to location
  - Check instruction form
  - New/secondhand car seat

- But we found.. a higher chance of safe transportation when the driver was a parent
Conclusion

- 83% were not transported safely
- Mistakes in installing the CRS and restraining children.
- Information needed
Materials

Trek het riempje zo strak mogelijk aan.