An environmental scan of child pedestrian injury hotspots in Cluj-Napoca, Romania

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Conclusions

• The study can contribute to the development of targeted prevention program in the area by indicating child pedestrian high incidence locations and associated risk factors.
• More research should be conducted on the effectiveness of modifying the built environment to reduce child pedestrian injuries.

Background

• Many traffic injuries result from the interaction of modifiable environmental factors (design of intersections, presence of crosswalks, parking facilities, traffic signs or road attractions).
• GIS is a useful method in representing clusters of road crashes and detecting areas with high levels of risk and severity of road traffic injuries.

Objective

• To identify high incidence locations (hotspots) for child pedestrian injuries in Cluj-Napoca.
• To determine built environment related factors that may contribute to increased risk of child pedestrian injuries.

Methods: Identification of hotspots

Three-year Cluj-Napoca Police database (2011-2013) containing casualties of child pedestrian aged 0 to 19:
• preliminary analysis: circumstances of crash occurrence, victim involvement, demographics and medical condition,
• temporal analysis: identify peak hours,
• mapping crash locations using ArcGIS 9.1
  • geocoding crashes using GPS Garmin eTrex 10

Methods: Environmental scan

• The surveys at each hotspot location were conducted by a team of two researchers.
• The hotspot scan was conducted between 10 am and 3 pm, to avoid the high traffic volume and associated congestion

Data collection instrument:
• risk factors
• protective factors
• factors contributing to the complexity of the hotspot locations

Results

Child pedestrian injuries in Cluj-Napoca, Romania 2011-2013

<table>
<thead>
<tr>
<th>Age category</th>
<th>Total</th>
<th>Slightly injured</th>
<th>Severely injured</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preschool 0-5 years</td>
<td>63 (27%)</td>
<td>30 (47.6%)</td>
<td>33 (52.4%)</td>
</tr>
<tr>
<td>Children 6-12 years</td>
<td>196 (83%)</td>
<td>111 (57.1%)</td>
<td>85 (42.9%)</td>
</tr>
<tr>
<td>Adolescents 13-19 years</td>
<td>38 (17%)</td>
<td>22 (57.9%)</td>
<td>16 (42.1%)</td>
</tr>
</tbody>
</table>

Child pedestrian hotspots

Environmental scan

Injuries at the hotspots location

43 (44.8%) 48 (50%) 56 (58.3%) 48 (50%)

Acknowledgements

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