Prevalence and correlates of noise induced hearing loss among traffic policemen in the city of Colombo, Sri Lanka

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Introduction

• Environmental pollution by noise is a major public health problem in the world.

• The city of Colombo in Sri Lanka is vulnerable to environmental pollution by noise.

• Transportation (traffic) noise is one of the main sources of environmental noise pollution.

• Traffic policemen are working long hours in the middle of traffic at the roads.

• As a result of that traffic policemen are exposing to environmental noise (mainly to traffic noise) daily for long periods.

• Because of that they are at risk of developing health hazards due to excessive noise.

• Noise causes number of health effects to human and, out of these noise induced hearing loss (NIHL) is the most serious one.

Objective

The objective of this study was to determine the prevalence and correlates of NIHL among traffic policemen in the city of Colombo.

Methodology

• Study design
  Descriptive cross sectional study

• Study population
  All traffic policemen work in the city of Colombo

• Sampling method
  Cluster sampling (a police station = cluster)

• Exclusion criteria
  Participants with congenial and documented hearing problems

• Total participants
  364 (287 attended for audiology test)

• Study instruments
  Interviewer administered questionnaire and pure tone audiogram

Results

Some demographic and working characteristics of the participants

<table>
<thead>
<tr>
<th>Number (N=364)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age 18y-30y</td>
<td>239</td>
</tr>
<tr>
<td>&gt;=31y</td>
<td>125</td>
</tr>
<tr>
<td>Rank Police constables</td>
<td>276</td>
</tr>
<tr>
<td>Police sergeants and higher ranks</td>
<td>88</td>
</tr>
<tr>
<td>Duration of work as a traffic policeman in the city</td>
<td></td>
</tr>
<tr>
<td>less than 4 years</td>
<td>258</td>
</tr>
<tr>
<td>more than 4 years</td>
<td>106</td>
</tr>
<tr>
<td>Number of hours working on roads per day</td>
<td></td>
</tr>
<tr>
<td>less than 6 hours</td>
<td>53</td>
</tr>
<tr>
<td>6 to 8 hours</td>
<td>159</td>
</tr>
<tr>
<td>more than 8 hours</td>
<td>152</td>
</tr>
</tbody>
</table>

Distribution of participants according to audiology results (n=287)

No NIHL Minor NIHL Major NIHL

Correlates for noise induced hearing loss

• 23 variables significantly associated with mild and major NIHL according to bi-variate analysis

• According to multi-variate analysis only “age” associated significantly with major NIHL (OR=1.088; 95% CI 1.055-1.123) while only “duration of work as a policeman” associated significantly with any NIHL (OR=1.007; 95% CI 1.005-1.009)

Conclusions

• Prevalence of NIHL among traffic policemen working in the city of Colombo was 41% (95% CI=36%–47%).
• A third of those having NIHL had major NIHL

Recommendations

• Periodic hearing assessments for traffic policemen.
• Number of hours working in the roads should be reduced.
• Traffic policemen with NIHL at present should be transferred to different sections immediately.

Acknowledgement

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