Introduction

Motorcycling has been linked to both temporary and permanent hearing loss from noise exposure (McCombe, Binnington, Davis, & Spencer, 1995) with the culprit being wind noise from the base of the helmet between the chin and neck of the rider (Jordan, Hetherington, Woods, & Harvey, 2004). According to the National Institute for Occupational Safety and Health (NIOSH, 1998), prolonged exposure to 85 decibels (dB) or more can cause permanent hearing loss. Cyclists are often exposed to levels around 90-103 dB (Jordan et al., 2004), which may contribute to temporary threshold shifts (TTS) and complaints of tinnitus after just one hour of high-speed riding (McCombe & Binnington, 1994).

Purpose

Population of cyclists is anticipated to increase due to urban congestion and cost of gasoline (Brown & Gordon, 2011).

Concern regarding the high levels of noise exposure this population experiences.

Purpose: To measure adult motorcyclists’ knowledge, attitudes, and behaviors related to possible noise-induced hearing loss (NIHL) that can occur with cycling.

Hypotheses:

1) Young and older adult male cyclists would have similar knowledge of NIHL and hearing protection devices (HPD).
2) Young adult male cyclists would have more negative attitudes and participate less in hearing protection practices compared to older male adult cyclists.

Methods

Experimental Tool: A questionnaire adapted from the Institute of Occupational Medicine (IOM) employee questionnaire (Hughson, Mulholland, & Cowie, 2002) was distributed at two motorcycle shops in the Chicago surrounding area.

Questionnaire Sections:

A. Personal Practices.
B. Risk Perception.
C. Knowledge.
D. General Attitudes to Safety.

Participants:

Group 1: Younger adult motorcyclists between the ages of 18 and 40 years (n=30).
Group 2: Older adult motorcyclists between the ages of 41 and 80 years (n=22).

Data Collection: Overall classifications of risk perception, risk knowledge and safety attitude were calculated using combinations of replies to a number of questions.

Cycling scheme strongly based on the one used by the IOM in a study of industrial employees (Hughson et al., 2002).

Results

Personal Practices:

Participants asked to report on perception of exposure to high levels of noise while riding.

Risk Perception:

Majority felt that they were exposed to high levels of noise only occasionally while riding (52%).

Safety Attitude:

Most common answers for reasons why hearing protection is not used (Table 1): 1) Not being able to hear properly with them in (19%).
2) Feeling of isolation (20%).

Discussion

Results indicate that there is no age effect for personal practices, risk perception, risk knowledge and safety attitude for motorcyclists.

Participants perceived that they are surrounded by noise only occasionally and do not wear hearing protection in these situations.

Responses for the groups combined suggest that participants were not very aware of the risks to hearing while riding.

Participants had high general knowledge regarding noise and hearing protection and were aware of the need to use safe riding practices.

Respondents agreed their behavior has an influence on what happens to them. Thus, there is a gap between low risk perception and high risk knowledge and safety attitude for these participants.

Conclusion

Audiology and hearing health care professionals should inform motorcyclists on the importance of hearing protection use while riding.

Many states do not require the use of hearing protection for riders. States should be encouraged to change their laws regarding hearing protection use for motorcyclists.

Counseling and community outreach will help bridge the gap between risk perception and risk knowledge/safety attitudes.

References