Scopus

Documents

Razali, A., Rahman, R.

Noise Exposure Among Motorcycle Riders: A Scoping Review

(2023) Malaysian Journal of Medicine and Health Sciences, 18 (2), pp. 303-309.

DOI: 10.47836/mjmhs.19.2.42

Department of Otorhinolaryngology-Head and Neck Surgery (ORL-HNS), Ear and Hearing Clinic, Kulliyyah of Medicine, International Islamic University of Malaysia (IIUM), Bandar Indera Mahkota, Jalan Sultan Ahmad, Shah, Kuantan, Malaysia

Abstract

This scoping review aimed to determine the dosage of noise exposure among motorcycle riders and the sources contributing to a rider's noise exposure. A systematic search of several scientific databases was conducted from 1981 until 2021. Eligible articles were included into the defined criteria. The dosage of noise exposure, sources, and standardization method were extracted. A total of 37 studies were included. There was scarce publication regarding the exact level of noise exposure experienced by the riders. There was, however, abundant evidence on indirect sources of noise exposure for riders, which requires further critical analysis. The dosage of noise exposure among riders was significantly higher than the recommended level. Seven sources were determined to generate noise which could potentially affect the riders, presented in this paper along with their respective evidence. © 2023 Authors. All rights reserved.

Author Keywords

Dosimeter; Motorcycle riders; Noise exposure; Road traffic noise; Source of noise

References

Charlton, E.

What is the gig economy and what's the deal for gig workers? | World Economic Forum, [Internet]. [cited 2022 Jul 13]

- Associates, K.
 - (2019) Mastercard Gig Economy Industry Outlook and Needs Assessment, Mastercard by
- Goines, L, Hagler, L.

Noise pollution: A modern plague

(2007) South Med J, 100 (3), pp. 287-294.

Ali, A, Mohamad Hussain, R, Dahlan, A, Asghar, A.

Assessment of Motorcycle Noise Exposure Levels (LAeq, dBA) at Various Noise Standards and Speeds

(2020) Environ Proc J, 5 (15), pp. 425-435. Dec 25

DCC 20

Ali, A, Hussain, RM, Abdullah, M, Dom, NC, Mara, T, Malaysia, S.

At-Ear Noise Levels Under The Helmet: A Field Study On Noise Exposure Of Young Motorcyclists

(2018) *J Fundam Appl Sci [Internet]*, [cited 2022 Jun 21]

Vlachokostas, C, Achillas, C, Michailidou, A V., Moussiopoulos, N.

Measuring combined exposure to environmental pressures in urban areas: An air quality and noise pollution assessment approach (2012) *Environ Int*, 39 (1), pp. 8-18.

Harvey, HD, Oliver Hetherington, J, Woodside, A, Jordan, C.
 Noise Induced Hearing Loss In Motorcyclists

(2002) Assoc Eur Transp,

Yang, N, Fu, R, Chao, Y, Liu, H, Ma, X.
 Quantitative assessment of environmental exposure of delivery men in Wuhan (2020) Arch Environ Occup Heal, 75 (8), pp. 445-463.
 Nov 16

Suthanaya, PA.

Modelling road traffic noise for collector road (case study of Denpasar City) (2015) *Procedia Eng [Internet]*, 125, pp. 467-473. [cited 2022 Jun 29]

Ingle, ST, Pachpande, BG, Wagh, ND, Attarde, SB.
 Noise exposure and hearing loss among the traffic policemen working at busy streets of Jalgaon urban centre
 (2005) Transp Res Part D Transp Environ, 10 (1), pp. 69-75.

Chang, TY, Liu, CS, Bao, BY, Li, SF, Chen, TI, Lin, YJ.
 Characterization of road traffic noise exposure and prevalence of hypertension in central Taiwan
 (2011) Sci Total Environ, 409 (6), pp. 1053-1057.

- Mansourkhaki, A, Haghiri, M, Berangi, M.
 A modified noise-prediction model for highways with significant motorcycle traffic (2021) Proc Inst Civ Eng Transp, 174 (4), pp. 239-247.
 Jul 1
- Hustim, M, Ramli, MI, Zakaria, R, Zulfiani, AR.
 The effect of speed factors and horn sound to the RLS 90 model reliability on The Visum program in predicting noise of heterogeneous traffic (2018) Int J Integr Eng., 10 (2), pp. 77-81.
- Yusoff, S, Ishak, A.
 Evaluation of Urban Highway Environmental Noise Pollution (2005) SainsMalaysiana, 34 (2), pp. 81-87.
- Ali, A, Dom, NC, Hussain, RM, Karuppannan, S, Abdullah, M.
 Auditory profile of undergraduate university motorcyclists: Prevalence of hearing loss and hearing impairment

 (2018) EnvironmentAsia, 11 (1), pp. 217-229.
 Jan 1
- Rylander, R, Dunt, DR.
 Traffic noise exposure planning: A case application (1991) J Sound Vib, 151 (3), pp. 535-541. [Internet]
- Setyono, G, Ulum, M, Lillahulhaq, Z.
 An experiment on different type of muffler on spark Ignition engine 110 cc performance
 (2021) IOP Conf Ser Mater Sci Eng, 1010 (1).
 Jan 15
- Cai, M, Zhong, S, Wang, H, Chen, Y, Zeng, W.
 Study of the traffic noise source intensity emission model and the frequency characteristics for a wet asphalt road

 (2017) Appl Acoust, 123, pp. 55-63.
 Aug 1
- Brown, C, Journal, MG-TOA
 Motorcycle helmet noise and active noise reduction

(2011) The Open Acoustics Journal, 411 (1), pp. 14-24. undefined

· Ross, BC.

Noise exposure of motorcyclists

(1989) Ann Occup Hyg, 33 (1), pp. 123-127.

Hirakawa, N.

Sae Technical Paper Series Sae 1999-01-3257 Jsae 9938012 A Study of Noise Reduction Method on Motorcycle

(1999) *Pap Pap 1990-2002*, (724). 9938012

. Khamis, N, Deros, BM

Understanding the effect of discomfort level towards motorcycle riders among teenagers: a preliminary study

(2014) Applied Mechanics and Materials, 663, pp. 480-484.

MN-AM, undefined

• Figlus, T, Szafraniec, P, Skrúcaný, T.

Methods of measuring and processing signals during tests of the exposure of a motorcycle driver to vibration and noise

(2019) Int J Environ Res Public Health, 16 (17). Sep 1

 Van Moorhem, WK, Shepherd, KP, Magleby, TD, Torian, GE, Van Moorttem, WK, Sheptierd, KP

The Effects Of Motorcycle Helmets On Hearing And The Detection Of Warning Signals

(1981) *Journal of Sound and Vibration*, 77. Jul

Sheng, N, Zhou, X, Zhou, Y.

Environmental impact of electric motorcycles: Evidence from traffic noise assessment by a building-based data mining technique (2016) *Sci Total Environ [Internet]*, 554–555, pp. 73-82.

Kalaiselvi, R, Ramachandraiah, A.

Honking noise corrections for traffic noise prediction models in heterogeneous traffic conditions like India

(2016) *Appl Acoust*, 111, pp. 25-38. Oct 1

• Chauhan, R, Shrestha, A, Khanal, D.

Noise pollution and effectiveness of policy interventions for its control in Kathmandu, Nepal

(2021) *Environ Sci Pollut Res Int*, 28 (27), pp. 35678-35689. [Internet]. Jul 1 [cited 2022 Jun 29]

Kennedy, J, Adetifa, O, Carley, M, Holt, N, Walker, I
 NH-TJ of the, et al. Aeroacoustic sources of motorcyclehelmetnoise
 (2011) JAcoustSocAm, 130 (3), pp. 1164-1172.
 [Internet]. Sep [cited 2022 Jun 21]

 Carley, M, Kennedy, J, Walker, I, Holt, N.
 The experimental measurement of motorcycle noise (2011) Proceedings of Meetings on Acoustics,

Mccombe, AW, Binnington, J, Nash, D.

Two solutions to the problem of noise exposure for motorcyclists

(1994) Occup Med (Chic III), 44 (5), pp. 239-242.

- Młyński, R, Kozłowski, E, Żera, J.
 Attenuation of noise by motorcycle safety helmets (2009) Int J Occup Saf Ergon, 15 (3), pp. 287-293. [Internet]
- Chang, TY, Lin, HC, Yang, WT, Bao, BY, Chan, CC.
 A modified Nordic prediction model of road traffic noiseinaTaiwanesecitywithsignificantmotorcycle traffic (2012) Sci Total Environ, 432, pp. 375-381.
- Chang, TY, Liu, CS, Bao, BY, Li, SF, Chen, TI, Lin, YJ.
 Characterization of road traffic noise exposure and prevalence of hypertension in central Taiwan
 (2011) Sci Total Environ, 409 (6), pp. 1053-1057

(2011) *Sci Total Environ*, 409 (6), pp. 1053-1057. [Internet]

Hustim, M, Arifin, Z, Aly, SH, Ramli, MI, Zakaria, R, Liputo, A.
 Road traffic noise prediction model for heterogeneous traffic based on ASJ-RTN Model 2008 with consideration of horn

(2018) *IOP Conference Series: Earth and Environmental Science*, [Internet]. Institute of Physics Publishing; [cited 2022 Jun 29]

- . Kennedy, J, Holt, N, Carley, M, Walker, I.
 - The influence of the acoustic properties of motorcycle helmets on temporary hearing loss in motorcyclists

(2014) Acta Acust united with Acust, 100 (6), pp. 1129-1138. Nov 1

- Lechner, C, Schnaiter, D, Siebert, U, Böse-O'reilly, S
 - US-IJ of, 2020 U. Effects of motorcycle noise on annoyance—a cross-sectional study in the alps

(2020) Int J Environ Res Public Health [Internet], 17 (5). Mar 1 [cited 2022 Jun 21]

- Licitra, G, Teti, L, Cerchiai, M.
 - A modified Close Proximity method to evaluate the time trends of road pavements acoustical performances

(2014) *Appl Acoust*, 76, pp. 169-179. [Internet]

- . Nilsson, ME.
 - A-weighted sound pressure level as an indicator of short-term loudness or annoyance of road-traffic sound

(2007) *J Sound Vib*, 302 (1), pp. 197-207. [Internet]

- Tansatcha, M, Pamanikabud, P, Brown, AL, Affum, JK.
- Motorway noise modelling based on perpendicular propagation analysis of traffic noise

(2005) *Appl Acoust*, 66 (10), pp. 1135-1150. [Internet]

Correspondence Address

Razali A.; Department of Otorhinolaryngology-Head and Neck Surgery (ORL-HNS), Bandar Indera Mahkota, Jalan Sultan Ahmad, Shah, Malaysia; email: ailin@iium.edu.my

Publisher: Universiti Putra Malaysia Press

ISSN: 16758544

Language of Original Document: English

Abbreviated Source Title: Malays. J. Med. Health Sci.

2-s2.0-85152119278

Document Type: Review

Publication Stage: Final

Source: Scopus



Copyright © 2024 Elsevier B.V. All rights reserved. Scopus® is a registered trademark of Elsevier B.V.

RELX Group™