

fingers. Such a suggestion may apply to transmission to even more far district, due to the fact that blood vessels can work as waveguide for pressure, because they are designed to be so. **Methodology** Can be summarised as following. Effects of vibrations on the hearing function will be assessed by stimulated otoacoustic emission method. Vibration elicitation will be strictly controlled (shaker and 6 DOF vibrating plate). Overall vibration will be measured by accelerometers on joints and head. Blood vessel vibration propagation will be measured by high resolution, dual frequency echography^{4,5} on main vessels (coronary) and small vessels. The frequency spectrum of hearing loss and blood vessels vibrations, deducted by the heart pumping effects, will be compared to look for coincidence.

REFERENCES

1. Sisto R, Botti T, Cerini L, Di Giovanni R, Marchetti E, Lunghi A, Sacco F, Sanjust F, Tirabasso A, Moleti A. Synergistic effects of noise and hand-arm vibration on distortion product otoacoustic emissions in healthy subjects. *Int. J. Ind. Ergon* 2016;1–7. <http://dx.doi.org/10.1016/j.ergon.2016.10.006>
2. Adewusi SA, Rakheja S, Marcotte P, Boutin J. Vibration transmissibility characteristics of the human hand–arm system under different postures, hand forces and excitation levels. *Journal of Sound and Vibration* 2010;**329**:2953–2971. <http://dx.doi.org/10.1016/j.jsv.2010.02.001>
3. IFA Report 5/2017e, DGUV, Hand-arm vibration: Exposure to isolated and repeated shock vibrations – Review of the International Expert Workshop 2015 in Beijing. <http://www.dguv.de/ifa/publikationen/reports-download/reports-2017/index-2.jsp>
4. Papadopoulou V, Balestra C, Theunissen S, Germonpré P, Obeid G, Boutros A, Dayton PA, Eckersley RJ, Cosgrove D, Tang MX. *Can contrast mode echocardiography help estimate bubble population dynamics post-dive?* EUBS 43rd annual scientific meeting, Ravenna, Italy, 12–16 September 2017.
5. *Self-assessment of the jugular venous pulse from space and special environments – Paolo Zamboni, EUBS 43rd annual scientific meeting, Ravenna, Italy, 12–16 September 2017.*

510

THE IMPORTANCE OF NOISE IN THE REQUEST OF EARLY RETIREMENT IN BRAZIL

RV Brito*, VR Batalini, AES Zafalon, LR Ferreira. *Centro Universitário das Faculdades Associadas de Ensino – UNIFAE, São João da Boa Vista, Brazil*

10.1136/oemed-2018-ICOHabstracts.1481

Introduction In Brazil, workers exposed to harmful agents are benefited by a public policy denominated Early (Special) Retirement. The main reason for this early retirement is to benefit workers who performed activity that can cause harm to health and include agents such as noise, biological, chemistry, heat, and others. This exposure has to be continuous, permanent and non-intermittent. In this context, due to the large number of companies that expose their workers to noise, the present study aims to analyse the prevalence of noise's requests granted in the request of Early Retirement and characterise the profile of workers who are exposed to this harmful agent.

Methods This was a retrospective study based on the analyses of 118 Profissiographic Profile Documents (PPD), a Brazilian National Social Security document use for granting early retirement for the worker exposed to harmful agents. The research was performed from November 2016 until May 2017, characterising the noise as the main harmful agent for the concession of the early retirement.

Results The noise accounted for 50,79% of requests for Early Retirement, in addition to 74,19% of all benefits granted. Considering merely the noise's requests, 44,74% were accepted. Considering the analysis of gender, 97,67% of noise's requests were made by men. Furthermore, the more

prevalent employment in the analysis were production assistant (26,07%), production operator (21,79%) and mechanic (13,62%). In addition, considering the noise's requests granted, production assistant represented 36,52%, followed by production operator (27,83%) and mechanic (4,35%).

Discussion The study's findings appointed the need for a special attention of government and companies to look for new strategies that aim to reduce the noise intensity in the work environment, especially on the secondary sector (Manufacturing and Industry), contributing for a better occupational health and worker production

1433

EFFECTIVENESS OF 'HEARING CONSERVATION PROGRAM' IN THE LNG INDUSTRY – A QATAR PERSPECTIVE

Nandakumar Gopakumar Pillai*, Rhee Costan. *Ras Gas Company Ltd, Qatar*

10.1136/oemed-2018-ICOHabstracts.1482

Background Noise, or unwanted sound, is one of the most pervasive occupational health problems. Ras Gas hearing conservation program aims to prevent hearing deterioration of its employees working in Ras Gas Company Ltd (RG) owned or operated properties that have potential exposure to high levels of noise and is based on the hearing conservation guidelines from OSHA.

Methods This Prospective study analysed the accumulated hearing evaluation data of the employees working with Ras Gas for a minimum of 10 years in the 'Similar exposure group' (SEG) within the operations group to test the effectiveness of the hearing conservation program (HCP) which was implemented in 2009. The data was extracted from the Medical Director (MD) Software of the Medical Services Department and includes the original audiograms of the 70 selected employees belonging to the operations group. This study planned to analyse:

- Pre – employment audiograms
- Audiograms taken at the start of the hearing conservation program (2009) and
- The audiograms done in 2014 (i.e; the hearing assessment of these employees from the day they started working with Ras Gas to the time the Hearing Conservation program was started and up to the 2014 hearing status) of the selected employees.

Results A total of 210 audiograms (3 × 70) were reviewed. The analysis of the audiograms displayed an improvement in employees hearing in line with the introduction of a hearing conservation program when the age correction factor was applied.

Discussion This study showed that, if properly executed, a hearing conservation program can prevent, reduce and even improve noise induced hearing deterioration. The study is particularly important in industries like mining, quarrying and oil and gas extraction which has the highest prevalence estimates of hearing loss.

1260

RELEVANCE OF AUDIOMETRIC HSE CATEGORIZATION REFERENCE VALUES AND MODERNIZATION

Sujil Jacob*, Martin Hogan. *Corporate Health Ireland Ltd, Cork, Ireland*

10.1136/oemed-2018-ICOHabstracts.1483