

Hearing Conservation Program for Vector Control Workers: Short-Term Outcomes from a Cluster-Randomized Controlled Trial

Authors : Rama Krishna Supramanian, Marzuki Isahak, Noran Naqiah Hairi

Abstract : Noise-induced hearing loss (NIHL) is one of the highest recorded occupational diseases, despite being preventable. Hearing Conservation Program (HCP) is designed to protect workers hearing and prevent them from developing hearing impairment due to occupational noise exposures. However, there is still a lack of evidence regarding the effectiveness of this program. The purpose of this study was to determine the effectiveness of a Hearing Conservation Program (HCP) in preventing or reducing audiometric threshold changes among vector control workers. This study adopts a cluster randomized controlled trial study design, with district health offices as the unit of randomization. Nine district health offices were randomly selected and 183 vector control workers were randomized to intervention or control group. The intervention included a safety and health policy, noise exposure assessment, noise control, distribution of appropriate hearing protection devices, training and education program and audiometric testing. The control group only underwent audiometric testing. Audiometric threshold changes observed in the intervention group showed improvement in the hearing threshold level for all frequencies except 500 Hz and 8000 Hz for the left ear. The hearing threshold changes range from 1.4 dB to 5.2 dB with largest improvement at higher frequencies mainly 4000 Hz and 6000 Hz. Meanwhile for the right ear, the mean hearing threshold level remained similar at 4000 Hz and 6000 Hz after 3 months of intervention. The Hearing Conservation Program (HCP) is effective in preserving the hearing of vector control workers involved in fogging activity as well as increasing their knowledge, attitude and practice towards noise-induced hearing loss (NIHL).

Keywords : adult, hearing conservation program, noise-induced hearing loss, vector control worker

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