

Critical Review:

Do workers who are exposed to high levels of occupational noise increase the use of hearing protection devices after attending a hearing conservation program?

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This critical review examines whether workers who are exposed to loud levels of occupational noise increase the use of hearing protection devices after they receive training regarding hearing loss prevention and the benefits of using the devices. Research supports that most workers do increase the use of HPDs

or lived in farms in the state of Wisconsin. The study included 753 participants grade 7th, 8th and 9th from 34 schools that were randomized into an intervention or control group.

Students in the intervention group (n=375) were involved in an educational program that included classes, demonstrations, assessments of noise levels with sound level meters, yearly hearing tests, and free HPDs throughout the program. Teenagers in the control group (n=378) did not receive the educational intervention or any information regarding NIHL, but they were given the yearly hearing tests.

Results indicated that at baseline, 23% of intervention group students and 24% of control group students used HPDs some of the time. After the educational program, the use of HPDs exceeded 80% beyond one year for the intervention group. Students in the control group also reported some increase in use.

When students were

Researchers used two different measures in order to assess the effects of the HPD training. One was a system of cards where workers reported noise levels, HPDs use, and the tools being use during the work shift among other events. The second measure consisted of a questionnaire in which workers reported use of HPDs. All the participants in the study filled in the activity cards and the pre and post training questionnaires. Some measurements were excluded due to missing data. The effects of the training were measured for 23 workers.

Results indicated that the percent of time where workers increased the use of HPDs when exposed to levels of noise greater than 85 dBA almost doubled after the training. This increase was shown to be statistically significant ($p=0.03$). Results t test showed that after the program workers increased significantly their knowledge about the items that were taught in the training. In this study as in the previous two, some of the workers had received some training regarding HPD use before the delivery of the program; therefore they could not increase the usage of HPDs. Future intended use of HPDs increased after training; however, the change was not statistically significant.

Neitzel et al concluded that after a hearing conservation program it is possible to observe an increase in HPD use in workers. This was believed to be difficult to achieve in a population of workers that is exposed to variable levels of noise throughout a work shift. knowledge regarding NIHL and HPDs also increased significantly after the intervention.