

Research on Noise Reduction Behavior of Workers in Noisy Environments and Its Influencing Factors

Zheng Lei*, Tao Shixin, Cai Ying, Liao Chunhua

Public Health Service Center, Shenzhen, China

Email address:

17789986@qq.com (Zheng Lei)

*Corresponding author

Abstract

Objective To analyze the noise reduction behavior of workers exposed to occupational noise and their influencing factors, providing a reference for developing health promotion programs and implementing intervention measures. **Methods** A cluster sampling method was used to select 449 workers exposed to noise from five enterprises within the jurisdiction. The basic information and occupational characteristics of the noise-exposed workers were collected. A scale for assessing noise reduction behaviors among noise-exposed workers was designed based on the Health Belief Model to investigate their noise reduction behavior patterns and influencing factors. **Results** There was correlation between noise exposure workers with different age and education level ($P < 0.05$), with educational level demonstrating a positive correlation ($r_s = 0.908$, $P = 0.039$) and age showing a negative correlation ($r_s = -0.119$, $P = 0.012$). There were statistically significant differences in perceived severity, social distance, behavioral barriers, self-efficacy and action benefit scores among workers exposed to noise reduction behavior types ($P < 0.05$), and the self-rated health status ($r_s = 0.109$, $P = 0.021$), severity ($r_s = 0.185$, $P = 0.001$), action benefit ($r_s = 0.108$, $P = 0.022$) and self-efficacy ($r_s = 0.373$, $P = 0.001$) were positively correlated with noise reduction behaviors, while behavioral barriers ($r_s = -0.237$, $P = 0.001$) was negatively correlated. **Conclusion** Based on the analysis of the results of the Health Belief Model, educational level, age, and health literacy significantly influence noise reduction behaviors among noise-exposed workers. Targeted occupational health education should be emphasized for workers with lower educational levels, younger age, and poorer health literacy to enhance their motivation and sustained engagement in proactive noise reduction behaviors.

Keywords

Occupational Noise Exposure, Noise-induced Damage, Health Literacy, Health Belief Model