

Hearing impairment and contributing factors among fertilizer factory workers

ABSTRACT

Introduction

Hearing impairment remains the main occupational health problem in the manufacturing industry, and its contributing factors have not been well controlled.

Methods

Unmatched case control and comparative studies were carried out among fertilizer factory workers in Sarawak with the aim of determining contributing factors for hearing impairment. Respondents consisted of 49 cases that were diagnosed from 2005 to 2008 with 98 controls from the same work places. Chisquare test and Mann-Whitney test were used in a univariate analysis to determine the association between hearing impairment and the contributing risks being studied.

Results

The results of the univariate analysis showed that hearing impairment was significantly ($p < 0.05$) associated with older age, lower education level, high smoking dose, high occupational daily noise dose, longer duration of service, infrequent used of hearing protection device (HPD), and low perception of sound on HPD usage. Multivariate logistic regression of hearing impairment after controlling for age found the following variables: occupational daily noise dose \uparrow 50% (OR 3.48, 95% CI 1.36-8.89), \uparrow 15 years of services (OR 2.92, 95% CI 1.16-7.33), infrequent use of HPD (OR 2.79, 95% CI 1.15-6.77), low perception of sound on HPD (POR 2.77, 95% CI 1.09-6.97), and smoking more than 20 packs per year (OR 4.71, 95% CI 1.13-19.68).