The relationship between information of hazardous factors for safety and health at workplace and occupational injury

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Objective

With the rapid economic growth and industrialization, occupational disasters and diseases have occurred in Korea. KOSHA Law has been released to protect all workers from potential occupational health and safety risks.

However, most of them was focused on manufacture filed or secondary industries. Its importance and interest in providing safety and health information has not been continued. In this study, we attempt to examine effect of provision of safety and health information (PSHI) on occupational injury.

Methods

This study was based on data from the 2nd to 5th KWCS. The PSHI are defined as based on self-answered questionnaire “How well do you get 'health and safety risks' information about your work?” The answer “very well” is classified as “yes”. We investigated the influence of PSHI on occupational injury using logistic regression analysis. Statistical analyses were performed using SAS statistical software (version 9.4; SAS Institute Inc., Cary, NC, USA). A two-tailed p value <0.05 was considered statistically significant.

Results

1) Baseline characteristics of study participants

314 (1.30%) cases of occupational injury, comprising 212 (1.72%) men and 102 (0.87%) women, from a total of 24,088 respondents (11,452 men and 12,636 women). The categories with the highest percentage of occupational injuries were: ≥ 50 years of age (1.59%), low level of education level (2.12%), blue collar workers (2.72%). There were 16.7% of workers were provided safety and health information at the workplace.

2) The relationship between PSHI and occupational injury

There was no significantly difference in the all participants regarding the provision of safety and health information. The results were stratified according to health and safety risks status at workplace and gender. In workers group who working at high-risk of health and safety status workplace, there was a considerably decrease of occupational injury in female workers who are provided safety and health information (OR: 0.74, 95% CI: 0.55 to 0.99).

Results of logistic regression analysis for occupational injury

		Occupational injuries		
		OR	(95% CI)	P-value
All participants				
PSHI				
	Yes	1.08	(0.80-1.44)	0.6071
	No	1.00	(reference)	
High-risk				
All participants				
PSHI				
	Yes	0.97	(0.69-1.37)	0.8868
	No	1.00	(reference)	
Men				
PSHI				
	Yes	1.20	(0.83-1.74)	0.3413
	No	1.00	(reference)	
Women				
PSHI				
	Yes	**0.74**	**(0.55-0.99)**	**0.0498**
	No	1.00	(reference)	
Low-risk				
All participants				
PSHI				
	Yes	1.31	(0.76-2.27)	0.3344
	No	1.00	(reference)	
Men				
PSHI				
	Yes	1.11	(0.53-2.30)	0.7846
	No	1.00	(reference)	
Women				
PSHI				
	Yes	1.54	(0.67-3.52)	0.3094
	No	1.00	(reference)	

All models were adjusted for age, sex, education level, household income, and occupational classification, and long working hours.

Conclusions

There is an important bearing on human health because of numerous hazards which exist in working environments. In this study, we proved that provision of safety and health information at the workplace significantly decreased the occupational injury in female worker who are working at health and safety risks status workplace. This study suggests that it is necessary to provide the safety education and improve the policy to provision of safety and health information at the workplace.

References

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