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THE EFFECTIVENESS OF PARTICIPATORY TRAINING ON REDUCTION OF OCCUPATIONAL INJURIES: A RANDOMISED CONTROLLED TRIAL

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Objectives Health and safety training is widely adopted as a means for reducing occupational injuries, but the effectiveness has not been adequately evaluated.

Methods We evaluated the effectiveness of participatory training and didactic training in preventing occupational injuries with a randomised controlled trial among 3479 frontline workers in 60 factories in Shenzhen, China. Work injury data over the preceding 12 months at baseline and 1 year after training were collected and compared, and logistic regression analysis was used to explore the associations between injury and relevant factors.

Results At baseline, the risk of injury increased significantly for workers who worked over 55 h per week (OR=1.57, 95% CI 1.16 to 2.13), with high stress level (OR=3.85, 95% CI 1.87 to 7.92) and a past work injury history (OR=4.28, 95% CI

2.97 to 6.17). The follow-up rate was 60.9% (2120/3479) at 1 year after training. The person-based incidence rate of injury in the intervention group decreased from 89.3 per 1000 workers at baseline to 52.1 per 1000 workers 1 year after training ($\chi^2=6.703$, $p=0.01$). The event-based incidence rate of injury in the intervention group also reduced significantly ($z=4.543$, $p<0.01$): from 138.3 per 1000 person-years at baseline to 67.0 per 1000 person-years 1 year after training. The injury rates also decreased after 1 year in the control groups, but the decreases were not statistically significant.

Conclusions Long work hours and high stress level could increase the risk of occupational injury. Participatory training was more effective in reducing occupational injuries than didactic training.