

(floor surface characteristics, slip-resistant shoes, floor cleaning frequency) and transient factors (rushing, distraction, contaminated floor), and the rate of slipping in limited-service restaurant workers.

Methods 475 workers from 36 limited-service restaurants in the US participated in a prospective cohort study of workplace slipping with a nested case-crossover arm. At baseline, kitchen floor surface roughness and coefficient of friction (COF) were measured. Slip-resistant status of the shoes was determined by direct observation. Restaurant managers reported the frequency of daily kitchen floor cleaning. Information about usual frequency of transient exposure was also obtained at the baseline. Participants reported their slip experience, whether exposed to transient exposures at the time of slip, and work hours weekly for up to 12 weeks. A negative-binomial GEE model and Mantel-Haenszel estimator for person-time data were used to calculate rate ratios.

Results Adjusting for covariates, use of slip-resistant shoes was associated with a 54% reduction in the rate of slipping (95% CI 37 to 64%) and the rate of slipping decreased by 21% (95% CI 5% to 34%) for each 0.1 increase in the mean kitchen COF. The rate of slipping was significantly increased by rushing, distraction and walking on a contaminated floor. Use of slip-resistant shoes decreased the effects of rushing and contaminated floor.

Significance These results provide support for the use of slip-resistant shoes and measures to increase COF as preventive interventions to reduce slips, falls, and injuries.

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USE OF NESTED CASE-CROSSOVER STUDY WITHIN A PROSPECTIVE COHORT STUDY TO EXAMINE BOTH FIXED AND TRANSIENT RISK FACTORS FOR SLIPPING

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Background Slips and falls are one of the leading causes of injury.

Objectives Using a nested case-crossover study within a prospective cohort study, we examined the associations between fixed factors