Work-leave rotation pattern and incidence of workplace injury among offshore oil and gas workers

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ABSTRACT

This study examines the incidence of workplace injury on offshore oil and gas installations in relation to the duration of time into the work rotation. Demographics and 6 year injury data on 4 installations was extracted for 1302 workers with rotation schedule of 4 weeks work–4 weeks rest (39.2%), 8 weeks work-4 weeks rest (26.7%), 16 weeks work-4 weeks rest (23.3 %) and 24 weeks work–4 weeks rest (9.8%). The incidence of injury decreased as duration of time into the work rotation increased for initial 16 weeks into the work rotation, corrected for exposure, and this was statistical significant for the first 4 weeks. This negative correlation was consistent for age groups, categories of work, shifts and severity of injury. It was also observed in all schedules and was statistically significant in 4-4 and 16-4 schedules. Relative risk of injuries between the 4 schedules, even when corrected for exposure and occupational risk of injury, showed no difference. These results are at variance with all previous studies although no prior study has looked beyond 3 week rotation schedule. Over 90 percent of the workforce studied was from the Indian Subcontinent with Western managers and these results may be due to the dissonance between a national culture, poor in safety, experienced in the 4 weeks of rest rotation in their home country and the demands of a robust organizational safety culture required to maintain safety offshore. With increasing safety awareness the injuries gradually decrease with time as the workers are reoriented and re-inducted in the organisation’s safety culture. Further studies into the timing of injuries offshore after leave and the interaction between national culture and organisational safety culture among multinational workers on offshore oil and gas installations and its effects on workplace accidents are warranted.