The impact of roster patterns on fatigue in commercial aircrew

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ABSTRACT

Fatigue in the aviation environment is an important hazard for flight safety. It is recognised that pilot fatigue in commercial aviation is commonly reported and that pilot fatigue has been implicated in several aircraft accidents. Scheduling factors are the most commonly cited reasons by pilots for fatigue at work. This study aims to examine those characteristics of flying patterns associated with increased fatigue risk.

This was a cross-sectional observational study of pilots in a large Middle-Eastern commercial airline. 372 responses were received (83.6%). A self-reported questionnaire was used to collect information on roster pattern over the past 4 weeks.

A validated fatigue questionnaire was used (CIS 20R) to assess cumulative fatigue over this period. The results were analysed using multivariate analyses to examine correlations between fatigue and roster pattern variables.

Results indicated that some degree of fatigue was reported in the majority of pilots. Differences in severity of reported fatigue were noted in relation to aircraft type. Fatigue scores were positively correlated with total duty hours, night duty, turnaround flights, consecutive eastward then westward flights and flights with time zone change of more than 4 hours.

The findings suggest that current rostering schedules may not accurately predict the amount of fatigue experienced in the field.