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EFFECTS OF ALTERNATING ROTATIONS EAST-WEST ON AIRCREW FATIGUE

EFFET DES ALTERNANCES EST-OUEST SUR LA FATIGUE DES PERSONNELS NAVIGANTS

M KLERLEIN, A GISQUET

AIR FRANCE, ROISSY CHARLES DE GAULLE, FRANCE

miklerlein@airfrance.fr

Introduction: Alternating rotation East-West is a common complaint in aircrew. The main effects claimed concern sleeping disorders and fatigue. The Air France FRMS asked his occupational medicine department to provide data on the effects of cumulating 1 or more east-west alternating rotations.

Methods: We proposed to fill up an online questionnaire after the periodic fitness exam. The main outcomes were the sleepiness Epworth score, sleep quality for the last two weeks on a 5 levels scale (1 = "very good" to 5 = "very bad") and the Samn-Perelli fatigue score. We controlled for different confusion factors like age, gender, commuting time, awakening duration at the time of the test. East-West alternation was characterized by an ad hoc index (product of the sum of time zone crossed by the number of alternations).

Results: From March 2016 to March 2018, 452 long-haul aircrew completed the questionnaire: 295 cabin crew, 96 first officers and 61 captains. The mean Epworth scores were 9.7 (captains), 10.8 (cabin crew) and 11.2 (F/O), and mean sleep quality was 2.3/5 (captains) 2.5/5 (F/O) and 2.6/5(cabin crew). 219 (48.5 %) flight crew had no alternation, whereas 127 (28.1%) had one 81 (17.9%) had two, and 25 (5.5%) had three or more alternations. In univariate analysis daytime sleepiness (OR 1.37[0.95-2.02]), fatigue (OR 1.14 [0.58-2.22]), and sleep quality (OR 1.05 [0.72-1.52]) are slightly but not significantly associated with having at least one alternation in the 6 last weeks.

Conclusion: In contrast with clear complaints about alternating East-West rotations, our study shows only limited effects on several classic sleepiness and fatigue scores. Taking into account confusion factors even lowers these limited associations. However, our questionnaire reveals that quite all flight crew consider that no more than two alternations should be scheduled in a month.