Jumlah sektor 24 jam terakhir dan faktor lainnya terhadap kelelahan penerbang sipil pada penerbangan jarak dekat di Indonesia = The effect of number of sectors and other risk factors on fatigue among short haul commercial pilots in Indonesia

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Abstrak

[Latar belakang: Kelelahan penerbang sipil termasuk pada penerbangan jarak

dekat dapat mempengaruhi fungsi kognisi penerbang sehingga membahayakan

keselamatan penerbangan. Tujuan penelitian ini untuk mengidentifikasi faktorfaktor

yang mempengaruhi kelelahan penerbang sipil pada penerbangan jarak

dekat di Indonesia.

Metode: Desain penelitian potong lintang dengan purposive sampling dilakukan

di antara penerbang jarak dekat dengan rating Boeing 737 series yang

melaksanakan pengujian kesehatan di Balai Kesehatan Penerbangan selama

periode 5-26 Mei 2014. Kelelahan diukur dengan Self-Reporting Questionnaire,

Fatigue Severity Scale (FSS). Data dikumpulkan dengan pengisian kuesioner oleh

subyek, meliputi demografi, pekerjaan, kehilangan waktu tidur (Epworth

Sleepiness Scale - ESS), faktor personal, dukungan manajemen, dan FSS. Analisis

regresi linear dipakai untuk menganalisis faktor-faktor berkaitan kelelahan.

Hasil: Di antara 785 penerbang yang melaksanakan pengujian kesehatan, 382

bersedia berpartisipasi, dan 239 subyek memiliki rating Boeing 737 series. Ratarata

skala kelelahan adalah 4,66 (standar deviasi 1,202). Faktor-faktor dominan

yang mempertinggi skala kelelahan adalah jumlah sektor 24 jam terakhir, jam

terbang penugasan di luar jadwal, dan kehilangan waku tidur. Setiap penambahan

1 sektor dalam 24 jam terakhir meningkatkan 0,371 skala kelelahan [koefisien

regresi () = 0,371; P = 0,000]. Selanjutnya setiap penambahan 1 jam terbang

penugasan di luar jadwal memepertinggi 0,033 skala kelelahan (= 0,033; P =

0,000). Sedangkan setiap penambahan 1 nilai ESS mempertinggi 0,043 skala

kelelahan (= 0,043; P = 0,008).

Simpulan: Jumlah sektor 24 jam terakhir, kehilangan waktu tidur, dan jam

terbang penugasan di luar jadwal mempertinggi risiko kelelahan di antara

penerbang sipil pada penerbangan jarak dekat di Indonesia.;Background: Fatigue could impair pilots'

cognitive function which may lead to

accidents in short-haul flight. The aims of this study were to investigate the risk

factors of short-haul commercial pilots fatigue in Indonesia

Methods: Cross-sectional study with purposive sampling was directed to Boeing

737 series typed-rating pilots who were taking medical examination at the Civil

Aviation Medical Center, Jakarta from May 5-26th 2014. Fatigue was measured

with Self-Reporting Questionnaire, Fatigue Severity Scale (FSS). Data were

collected by completing an anonymous questionnaire on demographics, workload, sleep restriction (Epworth Sleepiness Scale-ESS), personal factors, and managerial support. Risk factors and fatigue were analyzed using linear regression.

Results: During data collection, 785 pilots were taking medical examination, 382 pilots were willing to participate and 239 Boeing 737 series typed-rating pilots were chosen as subjects. Mean of FSS was 4.66 ± 1.202. Dominant factors of fatigue were number of sectors in 24 consecutive hours, flight times of unplanned flights in 30 consecutive days, and sleep restriction. Each additional sector correlated significantly to a 0.371 increase on the FSS [regression coefficient () = 0,371; p=0,000] and each additional value of ESS correlated significantly to a 0,043 on the FSS (= 0,043; p = 0,008), while each additional flight times of unplanned flights correlated significantly to a 0,033 on the FSS (= 0,033; p = 0,000).

Conclusions: Number of sectors in 24 consecutive hours, flight times of unplanned flights in 30 consecutive days, and sleep restriction correlated significantly to higher FSS., Background: Fatigue could impair pilots' cognitive function which may lead to accidents in short-haul flight. The aims of this study were to investigate the risk factors of short-haul commercial pilots fatigue in Indonesia

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