

The Prevalence of Metabolic Syndrome among Airline Pilots in Indonesia before and during the COVID-19 Pandemic = Proporsi Sindrom Metabolik antara Pilot di Indonesia sebelum dan sesaat Pandemi COVID-19)

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Abstrak

Latar Belakang Sindrom metabolik sangat serius karena diperkirakan 20 – 25% populasi orang dewasa di dunia menderita dengan kondisi tersebut. Orang dengan sindrom metabolik dua kali lipat lebih rentan meninggal karena serangan jantung dan tiga kali lebih mungkin meninggal karena stroke. Sindrom metabolik menjadi semakin umum terjadi pada pilot maskapai penerbangan komersial, dengan perkiraan prevalensi sebesar 18,28% pada pilot maskapai penerbangan komersial jarak pendek di Indonesia. Implikasi sindrom metabolik pada pilot maskapai penerbangan sangat signifikan dan dapat berdampak pada keselamatan awak pesawat dan penumpang jika tidak ditangani. Pandemi COVID-19 berdampak besar pada pengurangan lalu lintas udara, dan hal ini dapat berdampak pada paparan pilot terhadap hipoksia hipobarik di kabin dan mempengaruhi berbagai faktor gaya hidup. Studi kohort retrospektif ini menilai proporsi pilot maskapai penerbangan Indonesia yang menderita sindrom metabolik sebelum dan selama pandemi COVID-19. Metode Rekam medis pilot maskapai penerbangan yang telah melakukan pemeriksaan kesehatan di Aviation Medical Center diambil untuk penelitian ini. Data yang digunakan dalam penelitian ini dari rekam medis meliputi nomor identifikasi individu pilot, usia, tekanan darah, apakah mereka sedang mengonsumsi obat tekanan darah, hasil tes darah (trigliserida, kolesterol, konsentrasi glukosa), dan jam terbang yang terakumulasi dalam waktu sekitar 6-bulan antara pemeriksaan kesehatan. Data diimpor ke SPSS 20.0 dan analisis univariat dan bivariat dilakukan untuk mengidentifikasi proporsi pilot dengan sindrom metabolik, dan hubungannya dengan faktor-faktor seperti jam terbang dan usia. Hasil Peserta yang termasuk pada studi ini adalah 76 pilot maskapai penerbangan dengan data rekam medis mulai awal tahun 2019-pertengahan tahun 2021. Proporsi pilot yang menderita sindrom metabolik mencapai puncaknya sebesar 31,58% pada pertengahan tahun 2021, jauh lebih tinggi dibandingkan data prevalensi 18,28% yang diperoleh dari penelitian yang dilakukan sebelumnya dan melebihi kisaran perkiraan prevalensi pada orang dewasa di seluruh dunia. Data menunjukkan tren bahwa semakin banyak pilot yang lanjut menderita sindrom metabolik seiring berjalannya waktu, terlepas dari jam terbang. Glukosa plasma puasa (proporsi puncak pada pertengahan tahun 2021 sebesar 30,3%).

.....Background Metabolic syndrome is very serious as an estimated 20-25% of the world's adult population suffer from it. People with metabolic syndrome are twice as likely to die from heart attack & three times as likely to die from stroke. Metabolic syndrome is becoming increasingly common in commercial airline pilots, with an estimated prevalence of 18.28% among short-haul commercial airline pilots in Indonesia. The implication of metabolic syndrome in airline pilots are significant and can have repercussions on aircrew and passenger safety if left unmanaged. The COVID-19 Pandemic has had a large impact on the reduction of air traffic, and this may impact exposure of pilots to hypobaric hypoxia in cabin and influence various lifestyle factors. This retrospective cohort study assesses the proportion of Indonesian airline pilots with metabolic syndrome before and during the COVID-19 pandemic. Methods The medical records of airline

pilots who have conducted medical check-ups in the Aviation Medical Centre were taken for this study. Data used in this study from the medical records include the individual pilot's identification number, age, blood pressure, whether they are taking blood pressure medication, blood test results (triglycerides, cholesterol, glucose concentrations), and flight hours accumulated in the roughly 6-month period between medical check-ups. Data was imported into SPSS 20.0 and both univariate and bivariate analysis was done to identify the proportion of pilots with metabolic syndrome, and its association with factors such as flight hours and age. Results Participants included 76 airline pilots with medical record data spanning from early 2019 – mid-2021. The proportion of pilots with metabolic syndrome reached a peak of 31.58% in mid-2021, much higher than the 18.28% prevalence derived from a previously conducted study and exceeds the range of estimated prevalence in adults worldwide. The data suggests a trend that more pilots continued to develop metabolic syndrome over time, independent of flight hours. Fasting plasma glucose (peak proportion in mid-2021 of 30.3%). Conclusion The proportion of pilots with MetS had an eightfold increase by the end of the study. The Proportion of pilots with hypertension had 3.21 times increase during the COVID-19 pandemic compared to before. The proportion of pilots with FPG>100 mg/dL increased 2.89 times across the study period. Flight hours and MetS did not have a significant correlation, but the average median 6-month flight hours of pilots with MetS prior to the COVID-19 pandemic is greater than pilots during the COVID-19 pandemic by an average of 163 hours.