Pengaruh kebisingan terhadap terjadinya gangguan pendengaran pada para teknisi (Ground Crew) pesawat tempur TNI AU di Lanud Iswahyudi Tahun 2006

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Abstrak

Gangguan pendengaran pada teknisi (ground-crew) pesawat tempur TNI AU cukup menonjol sampai saat ini. Gangguan pendengaran dapat disebabkan antara lain oleh pajanan kebisingan yang tinggi. Penelitian ini bertujuan untuk mengetahui gambaran dan pengaruh kebisingan dari kegiatan pengoperasian pesawat tempur TN! AU terhadap terjadinya gangguan pendengaran pada teknisi (ground crew) di Lanud lswahyudi dan pengaruh faktor risiko umur, training, riwayat kesehatan, riwayat gangguan kesehatan pendengaran keluarga, hobi, masa kerja dan penggunaan alat pelindung telinga (APT).
Penelitian ini menggunakan disain studi "kasus kontrol" dengan populasi para teknisi (ground crew) pesawat tempur TM AU di Lanud lswahyudi. Jumlah sampel yang digunakan sebanyak 261 yang terdiri dari 87 kasus dan 174 kontrol dan pengambiian sampel dengan teknik cluster random sampling. Diagnosis gangguan pendengaran jenis Noise Induced Hearing Loss (NIHL) ditetapkan berdasarkan hasil pemeriksaan klinis dan pemeriksaan dengan alat audiometri_ Pengukuran pajanan bahaya kebisingan menggunakan: Octave Band Noise Analyzer untuk mengukur frekuensi, Sound Level Meter untuk mengukur tingkat kebisingan, dan Personal Noise Dosimeter untuk mengukur dosis bising yang diterima pekerja, sedangkan faktor risiko lainnya pengukuran menggunakan daftar kuesioner, pengamatan dan wawancara. Analisis statistik menggunakan univariat, bivariat dengan chi-square dan multivariat dengan regresi logistik ganda model faktor risiko, dengan menggunakan perangkat lunak SPSS versi 13.0.
Temuan penting dari penelitian ini : (1) Proporsi gangguan pendengaran (NIHL) pada teknisi 11,2%; (2) Pajanan bahaya bising : frekuensi 16 - 20 KHz; tingkat kebisingan rata-rata selama 8 jam berkisar 75 - 112 dBALeq dan tertinggi 141,8 dBA; dosis bising yang diterima teknisi tertinggi 51,286,14 %; (3) Faktor yang berpengaruh terhadap gangguan pendengaran adalah bahaya kebisingan >85 dBA (OR : 8,308) ; umur ?35 tahun (OR :11,995); training (OR : 13,946); masa kerja >12 tahun (OR : 21,426); (4) Pengaruh bahaya kebisingan setelah dikontrol oleh konfounder Craning dan masa kerja dengan ORadjust 8,863; (5) dari temuan penelitian dihasilkan model dengan peluang gangguan pendengaran (NIHL) pada teknisi dari variabel dosis, training dan masa kerja 6,32%.
Para teknisi pesawat tempur TM AU di Lanud lswahyudi yang terpajan bising >85 dBA-Leq atau dosis >100% mempunyai risiko terjadi gangguan pendengaran lebih besar daripada teknisi yang terpajan bising 585 dBA-Leq atau dosis 5100% secara bersama-sama dengan faktor risiko training dart masa kerja. Untuk itu perlu pengendalian bahaya bising yang dilakukan secara komprehensif dengan menggabungkan pengendalian secara teknis dan administratif serta penggunaan APT yang memadai merupakan suatu keharusan karena pajanan bising yang sangat tinggi.
<hr><i>Hearing loss among at technicians (ground-crew) Indonesian Air Force is the main occupational disease still happening. it can be triggered by hazardous noise exposure. The objective of this research is to know about the picture and effect of the noise in every operation of fighting aircraft toward hearing loss among technicians (ground crew) of Indonesian Airforce in Iswahyudi Airforcebase, and the effects of the

other risks factor such as age, training, health history, history of hearing loss of family, hobby, length in services and usage of personal protective of ear (APT).
This research applied is a "case-control" study with population of technicians (ground crew) IAF in Iswahyudi Airforcebase. Total sample were 261 technicians consisting of 87 cases and 174 controls with was designed by cluster sampling random. Diagnosis of Noise Induced Hearing Loss (NIHL) type of Sensory-Neural is classified based on the clinic inspection result and audiometry test. The measurement of noise exposure was using Octave Band of Noise Analyzer to measure the frequency, Sound Level Meter was to measure the noise pressure levels, and then Personal Noise Dosemeter was to measure noise dose which is accepted by technichians, while other risk factors of measurement use list of Questioner, interview and observation. Statistical analysis uses univariate, bivariate with chi-square and multivariate analysis with double logistics regression of risk factor model, by using software of SPSS version 13.0.
The Important finding from this research are : (1) Proportion hearing loss (NIHL) at technician 11,2%; (2) Noisy hazard exposure : frequency 16 - 20 KHZ; the rate of noise levels during 8 hours is 75 - 112 dBA-Leq and highest 141,8 dBA; the highest noise dose accepted by technician is 51,286,14 %; (3) Factors having an effect toward hearing loss is noise exposure > 85 dBA (OR : 8,308) ; ages ?35 years (OR : 11,995); training (OR : 13,946); length in service > 12 years (OR : 21,426); (4) The effect of noise exposure after being controlled by confounder training and length of service with OR adjust 8,863; (5) From these research finding models with probability of hearing loss (NIHL) among technicians can be found from dose variable, length of service and training is 6,32%.
The technicians of Indonesian Air Force in Iswahyudi Airforcebase who are exposed to noise more than 85 dBA-Leq or noise doses more than 100% having more risk of hearing loss than technicians who are exposed to noise less than 85 dBA-Leq or noise doses less than 100% together with risk factor of training and length of service. To reduce hearing loss occurrence among technicians of Indonesian Air Force in the Iswahyudi Airforcebase it is necessary to have policy and strong commitment that is control by comprehensively joined operation technically and administrative as well as the adequate provide Hearing Protective of Equipment, because of very high noisy exposure.</i>