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OCCUPATIONAL RISK ASSESSMENT FOR AIRCREW IN FIXED WING TRANSPORT AIRCRAFTS OF THE ISRAELI AIR FORCE

ÉVALUATION DES RISQUES PROFESSIONNELS RELATIFS AUX AVIONS DANS LES AVIONS DE TRANSPORT AILES FIXES DE LA FORCE AÉRIENNE ISRAËLIENNE

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Introduction: Long-term exposure to high levels of noise presents potential health risks. Exposure to Volatile Organic Compounds (VOC) is also known to have many health effects. Most research for occupational risk assessment to aircrew were conducted in airliners.

Aims: To examine exposures to noise and VOC in seven aircraft types, constituting the military fixed wing transport platforms in the Israeli Air Force: Beech Super King Air 200 (two configurations – Kukia and Tzufit), Beech A36 Bonanza, Boeing 707, C-130 Hercules, Gulfstream V, and C-130J Super Hercules.

Methods: Noise levels and VOC concentrations during flight were measured in the cockpit of all platforms and in the cabin of the airplanes where the cockpit is separated. The measured values were compared with the threshold values for VOC and noise set by ACGIH.

Results: All the measurements of VOC were found meaningfully lower than the occupational threshold limits, most of them below detection levels. Harmful noise levels were measured in the cockpit of Beech Super King Air 200 (Kukia configuration), Beech A36 Bonanza and C-130 Hercules and in the cabin of Boeing 707, C-130 Hercules, Gulfstream V, and C-130J Super Hercules.

Conclusions: The fixed wing transport aircrew is not exposed to harmful VOC concentrations in the air. Harmful noise levels are present in three of the platforms in the cockpit, and in the cabin of all heavy fixed wing transport in the IAF. Aircrew and passengers should take note and take preventive measures in long flights.