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Hearing loss among Greek army recruits: A reason to worry

Hearing loss is one of the most common sensory disorders, affecting millions of individuals of all ages worldwide.¹ It can be caused by many factors, including infectious diseases, ototoxic drugs and chemicals, exposure to occupational or environmental noise, developmental syndromes and the aging process, all of which are further influenced by individual genetic susceptibility.¹ Hearing loss can impose a heavy social, emotional and economic burden that affects the overall quality of life.¹ In the US, 12.7% of the population aged ≥ 12 years has bilateral hearing loss, and 20.3% has either bilateral or unilateral hearing loss.² Similar rates have been observed in Sweden, with nearly 1 in 5 young adults (<40 years) having either tinnitus or hearing loss.³ As relevant data are not available in Greece, the aim of the present study was to evaluate the prevalence of hearing loss among Greek army recruits.

This study was conducted in Thiva, where the Artillery Training Center (ATC) of the Greek Army is based. Enrollment in the Greek Army is obligatory for all males aged >18 years. The ATC hosts over 1,000 recruits at each recruitment, coming from all areas of Greece and every socio-economic status. Of the 1,246 young men recruited in February 2011, 336 were excluded because of incomplete or extreme audiometric measurements (i.e., any one of the following: ear pain that did not allow them to tolerate headphones; missing values at 1 or more audiometric frequencies; a 10-dB or greater difference between the 1-kHz test-retest thresholds), leaving 910 participants aged 18–39 years (mean \pm SD: 22.8 \pm 7.9 years) available for analysis. Audiometry was performed before the participants started their core military training. The measurements were made in a dedicated sound-isolated room in the medical facility of the ATC by trained physicians, according to a modified Hughson Westlake procedure for measuring pure-tone

detection thresholds⁴ and using an AS216 screening audiometer. Air conduction thresholds were measured for each ear at 0.5, 1, 2, 3, 4, 6, and 8 kHz across an intensity range of –10 to 120 dB. A speech-frequency pure-tone average (average of hearing thresholds at 0.5, 1, 2, and 4 kHz) of ≥ 25 dB HL (hearing level) in both ears was defined as hearing loss according to WHO criteria,⁵ and this is the level at which hearing loss begins to impair communication in everyday life.²

The prevalence of bilateral hearing loss among this sample of young Greek male recruits was 6.2% (n=56), and the prevalence of bilateral and unilateral hearing loss was 29.9% (n=272). The prevalence of bilateral hearing loss in this sample was alarmingly high; the corresponding prevalence for a similar age group in the US is <2%.² Further studies are needed to evaluate prevalence ratios of hearing loss at a national level and to identify major determinants, particularly among people of younger ages who are regularly exposed to dangerous levels of loud music, at music concerts, in bars and clubs, and through the use of personal music players and cell phones.

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ΠΕΡΙΛΗΨΗ

Απώλεια ακοής σε Έλληνες νεοσύλλεκτους στρατιώτες: Ένας λόγος ανησυχίας

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