

BEYOND THE FOG: A DIVE INTO THE HEALTH IMPACTS ON SERUM CHOLINESTERASE LEVEL, SPIROMETRIC CHANGES AND AUDIOMETRIC TESTING AMONG FOGGERS IN KLUANG DISTRICT HEALTH OFFICE

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ABSTRACT

Introduction: Fogging professionals are exposed to a range of chemicals that may impact their health. Serum cholinesterase is a critical enzyme for nerve function that can be disrupted by chemical exposure. Spirometric tests will assess changes in respiratory function, while audiometric testing will evaluate any hearing impairment. Objective: This study investigates the effects of such exposure on serum cholinesterase, spirometric and audiometric changes among foggers at the Kluang District Health Office. By integrating these measurements, this research seeks to provide a comprehensive understanding of the occupational hazards faced by foggers and inform better protective measures. Methodology: This is a cross-sectional study in which a retrospective record review was conducted from 1st January 2023 to 31st December 2023 for all foggers in Kluang District Health Office during the pre and post exposure assessment. Data were collected from the Occupational Health Clinic database and analysed descriptively. Results: The measurement of serum cholinesterase levels indicated that 100% of the foggers were within the normal range, with less than 25% variation observed in serum cholinesterase levels pre- and post-exposure. The mean change in serum cholinesterase levels was 5.58% with a standard deviation of 5.23%. Audiometric screening revealed that 13.6% (n=3) of the foggers exhibited abnormal results. However, spirometric testing showed normal lung function for all participants. Conclusion: Given the unavoidable health risks faced by foggers, it is essential to implement comprehensive control measures to safeguard their well-being. To ensure this, continuous medical surveillance is necessary to detect potential health issues early. This should be complemented by enhanced health and safety training, focusing on the proper use of personal protective equipment and best practices. Recommendations include regular audiometric, serum cholinesterase levels and spirometric monitoring, a review and strengthening of safety protocols, and further research into the long-term health effects and efficacy of protective measures.

Keywords: medical surveillance, foggers, cholinesterase, spirometry, audiometry
