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Dangerous decibels in blacksmith and metal fabrication workshop in Ho Municipality: Emerging threats to cochlear health and the sustainable solutions

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Objectives:

Occupational noise exposure remains a major public health concern, particularly in informal sectors like blacksmith and metal fabrication workshops where protective measures are often ignored. Blacksmiths and metal fabricators are frequently exposed to dangerous decibels emanating from hammering, moulding or grinding metals typically exceeding safe limits of 85 dB(A) which pose emerging threats to cochlear health. This paper presents emerging threats to cochlear health and its sustainable solutions among blacksmiths and metal fabricators in Ho Municipality.

Methods:

This case series involved five blacksmiths in Ho, Volta Region, Ghana. Noise levels were measured with a sound level meter and face-to-face interviews were conducted to gather information on occupational exposure patterns, observed hearing difficulties and awareness of hearing conservation measures. Data analysis was done through descriptive statistics.

Results:

Results revealed that hand grinding machine produced 95dB, table grinding machine = 92dB, hammer-anvil = 91dB, electric drilling machine =88dB, hand saw = 75dB. Four out of the five workers (80%) were unaware of hearing protective devices; only one reported knowledge of earplugs as protection against high intensity sounds. On average, all the 5 blacksmiths worked 12 hours daily (6:00 am – 6:00 pm) and notably, none of them reported the use of either earplugs or earmuffs during work activities. Fortunately, no worker reported hearing difficulties yet.

Conclusion:

Prolonged exposure to hazardous noise levels without protection can lead to noise induced hearing loss. Strengthening hearing conservation practices, including education, ear protectors, and periodic hearing screening is vital in preserving auditory health in this occupation.