

Noise Pollution has Non-Auditory Long Term Consequences

Ashwith Thames*

Department of Epidemiology and Biostatistics, Imperial College London, St Mary's Campus, Norfolk Place, London W2 1PG, UK

INTRODUCTION

Noise from transportation, industry, and neighbors is a common occurrence in the environment. In the laboratory, exposure to transportation noise disrupts sleep, but this is not the case in field trials when adaptation occurs. Noise obstructs difficult work performance, alters social behavior, and is irritating. Noise exposure in the workplace and in the environment has been linked to hypertension in research, while community studies demonstrate only a weak link between noise and cardiovascular disease. Noise from planes and cars is associated with psychological symptoms, but not to a professionally diagnosed mental condition. Chronic airplane noise exposure in youngsters decreases reading comprehension and good memory, and is linked to elevated blood pressure. More study on coping mechanisms and the potential health implications of noise adaptation is required. Noise, defined as "unwanted sound," is seen as a stressor and annoyance in the surroundings. Noise's non-auditory impacts are described as "all those consequences on health and well-being that are induced by exposure to noise, with the exception of effects on the hearing organ and effects owing to auditory information masking." Noise has the potential to affect one's health directly, rather than indirectly through discomfort. The reaction to noise may be influenced by sound qualities such as loudness, frequency, sound intricacy, endurance, and significance.

Noise's health-related non-auditory impacts

Noise has been shown to disrupt sleep in both objective and subjective ways⁴. Noise exposure disrupts sleep in proportion to the quantity of noise heard, as measured by the pace of changes in sleep phases and the number of awakenings. While sleeping, noise can increase blood pressure, pulse rate, and finger pulse intensity, as well as bodily movements. Following a night of disrupted sleep, there may be daytime consequences; reported sleep quality, mood, and response time all worsened after a night of disturbed sleep caused by road traffic noise.

Exposure to noise and function

Noise exposure lowers performance, according to strong evidence derived primarily from laboratory studies. When speech is played while a person reads and recalls verbal content, performance may be harmed, but this impact is not shown with non-speaking noise

[1]. The consequences of 'irrelevant speech' are unaffected by the discourse's loudness or meaning. The fact that 'irrelevant speech' may disturb complicated mental processes implies that reading, which relies on memory, may be affected as well. Noise has also been shown to decrease helpful behavior, increase hostility, and diminish the processing of social cues that are unrelated to task performance [2].

Psychiatric disorders and noise

Nausea, headaches, argumentativeness, and changes in mood and anxiety have been recorded among industrial employees who are often exposed to excessive noise levels in settings such as schools and factories. However, many of these industrial studies are difficult to interpret since employees were subjected to additional stressors in addition to extreme noise, such as physical risk and intense labor demands. In high-noise locations, large percentages of individuals experienced 'headaches, "restless nights," and 'being uncomfortable and edgy,' according to community surveys. Such investigations revealed a clear relationship between aircraft noise and symptoms, raising the potential of a bias toward over-reporting of symptoms. Notably, a research conducted near three Swiss airports, which did not specifically state that it was connected to aircraft noise, found no link between aircraft noise exposure and symptoms [3].

Noise and other stresses have a synergistic impact

The impact of other stressors on health may be amplified by noise, or noise may amplify the impact of other stressors on health. Stressors can work together, against each other, or not at all. Economic, chemical, biological, social, and work-related elements are all potential stressors [4]. Noise and vibration have been proven to have synergistic effects on diastolic blood pressure, while temperature and noise have been shown to alter morning adrenaline output. Few researches have looked at the impact of numerous environmental stressors in the field. This might be a significant new area for noise studies to explore.

Noise and non-auditory consequences on children's health

Children are considered to be a population that is particularly sensitive to noise's non-auditory health impacts. They lack well-developed coping skills and have reduced cognitive capacity to recognize and predict stressors. Furthermore, because infants are still growing physically and cognitively, there is a possibility that

*Correspondence to: Ashwith Thames, Department of Epidemiology and Biostatistics, Imperial College London, St Mary's Campus, Norfolk Place, London W2 1PG, UK, E-mail: tashwith315@imperial.ac.uk

Received: November 09, 2021; Accepted: November 23, 2021; Published: November 30, 2021

Citation: Thames A (2021) Noise Pollution has Non-Auditory Long Term Consequences. J Pollut Eff Cont 9:317. doi: 10.35248/2375-4397.21.9.317.

Copyright: © 2021 Thames A. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original work is properly cited.

exposure to an environmental stressor such as noise will have permanent detrimental implications [5].

CONCLUSION

The strongest evidence for the impacts of ambient noise on health in adults and children is for irritation, sleep, and cognitive function. Noise exposure at work has also been linked to an increase in blood pressure. For irritation and, to a lesser extent, blood pressure, dose-response connections may be proven. Noise has the greatest impact on outcomes that may be characterized as 'quality of life' rather than sickness, such as irritation. The intensity of these consequences is compensated for by the large number of persons who are afflicted, as these reactions are prevalent. More study is needed to explain this complicated topic, including better noise exposure monitoring and health impacts. Furthermore, field investigations with longitudinal designs and careful sample selection should be prioritized to minimize unnecessary bias owing to past noise exposure.

REFERENCES

1. Salame P, Baddeley AD. Disruption of short-term memory by unattended speech: implications for the structure of working memory. *J Verb Learn Verb Behav.* 1982;21:150-164.
2. Jones DM, Chapman AJ, Auburn TC. Noise in the environment: A social perspective. *J Appl Psychol.* 1981;1:43-59.
3. Barker SM, Tarnopolsky A. Assessing bias in surveys of symptoms attributed to noise. *J Sound Vib.* 1978;59:349-354.
4. Öhrström E, Rylander R, Bjorkman N. Effects of night time road traffic noise-an overview of laboratory and field studies on noise dose and subjective noise sensitivity. *J Sound Vib.* 1988;127:441-448.
5. Hambrick-Dixon PJ. The effect of elevated subway train noise over time on black children's visual vigilance performance. *J Environ Psychol.* 1988;8:299-314.