

# Impact of Noise Pollution on Human Health

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**ABSTRACT:** *Noise pollution is a significant issue in cities all around the globe. Noise is the term for unwelcome noise All undesirable noises in our surroundings are considered environmental pollution, with the exception of those that originated in the workplace. Sound pollution is a kind of air pollution that is detrimental to one's health and well-being. It is increasingly intense and widespread than ever before as a result of population growth, urbanization, and the resulting rise in the use of increasingly powerful, diverse, and more movable producers of sound, and it would continue to grow in size and severity. It would also continue to rise as roadway, The amount of traffic on the road, train, and planes is increasing, all of which are important producers of sound in the surroundings. Factory employees are often exposed to excessive noise levels owing to equipment. Noise contamination may have a broad variety of health consequences that are widespread, long-term, and clinically and influential. Noise produces immediate and long-term detrimental health effects, as well as worsened housing, social, and professional situations, culminating in monetary and emotional (well-being) costs. Noise may cause hearing loss, sleep disturbances, vascular sickness, social handicaps, poorer productivity, poor social conduct, annoyance reactions, absenteeism, and fatalities. It may make it difficult to enjoy one's home and leisure time, as well as increasing the likelihood of antisocial behavior. Noise has a deleterious influence on general health and well-being, similar to persistent anxiety. This study will help in future study to understand the noise pollution and human health.*

**KEYWORDS:** *Annoyance, Communication, Hearing, Noise pollution, Sleep.*

## 1. INTRODUCTION

"Unnecessary noise is the most brutal misuse of treatment which can be imposed on either the ill or the healthy," Florence Florence- remarked in 1859, recognizing sound as a health threat (Morillas et al., 2018). Noise contamination is a serious urban territory problem that affects every city. Pollution is becoming more common and severe on a regular level. Noise pollution is a source of annoyance for humans. The cacophony is often created by machines and disrupts human activity or homeostasis. It's a growing environmental hazard that's gradually becoming an ubiquitous yet invisible kind of pollution in both developed and emerging countries. Noise is derived from the Roman word "nausea," which meaning "unwanted sound" or "a loud, disagreeable, or unpleasant audio. (Slabbekoorn, 2019) It's described as "the wrong sound, at the wrong place, at the wrong moment".

Noise issues from the past are insignificant compared to the current situation. As a consequence of population expansion, urbanization, and technology advancements, noise pollution continuing to increase in extent, frequency, and intensity as compared to that experienced by contemporary city inhabitants (Basu et al., 2021). Hearing loss, interfering with spoken communication, sleep problems, cardiovascular disturbances, annoyance, and other disorders are all caused by noise exposure.

### *1.1 Noise's Negative Health Effects:*

- *Hearing Impairment:*

Hearing is very important for one's wellness and security. A increase in the limit of hear as determined by audiological in a medical context is generally referred to as auditory loss. Auditory losses might happen at employment, in the neighborhood, and in a number of different places. There is universal consensus that hearing intensities lower than 70 decibel (dB) do not induce auditory loss, regardless of the duration of contact (Klingbeil et al., 2020). There is generally universal agreement that hearing levels over 85 decibels for greater than 8 hours are possibly detrimental; to put this in context, 85 decibels is about equivalent to the volume of strong vehicle activity on a large highway.

Damage is related to sound intensity (measured in dB) and exposure length when sound levels reach 85 decibels (Kalawapudi et al., 2021). The most prevalent reason of auditory loss is occupational noise, but other forms of noise, particularly recreation sound, might also create serious problems. Based to research, kids seem to be more sensitive to sound hearing loss than adult.

- *Annoyance and unhelpful Social Behavior:*

Any aggravation a person experiences as a result of any agent or situation would have a bad impact on him or her is described as annoyance. This response might be described as aversion or discomfort (Ma et al., 2018). Noise has been used as a painful stimuli in a lot of studies since it has the same impacts as various stresses. Anger levels skyrocket when loudness is combined by movement or low-frequency components. Anger, disappointment, discontentment, cessation, worthlessness, Noise pollution may cause sadness, anxiety, distraction, restlessness, and exhaustion, to name a few bad effects. Anger, frustration, discontent, cessation, powerlessness, anxiety, anxiety, confusion, irritability, or tiredness are just a few of the negative reactions associated with noise pollution. The absence of apparent control over the noise exacerbates these consequences (Khairwal et al., 2016). Noise exposure has a variety of social and behavioral consequences that are subtle, complicated, and indirect Adaptations in everyday conduct (e.g., closure panes and gates to decrease external sound; ignoring the use of verandas, patios, and lawns; and turning up the volume of stereos and tv sets); changes in social actions (e.g., aggressive nature, rudeness, nonparticipation, or disconnection); and mood changes; and alterations in social indicators (e.g., home migration, medical admissions, drug intake, and accident rates) (Goines & Hagler, 2007).

- *Disruption of Spoken Communication:*

Noise contamination make it impossible to perceive normal language and might lead to a number of individual problems, incapacities, and behavior problems. Concentration problems, fatigue, uncertainty, a lack of self, irritation, misunderstandings, reduced

productive ability, Only a few of these include strained interpersonal interactions and stress responses. Several of these undesirable consequences are might result in a rise in car fatalities, a collapse in instructional communications, and low academic performance. Kids, the elderly, and those who do not speak the language are among the most vulnerable groups (Isa et al., 2018).

- ***Sleep Disruptions:***

In healthy individuals, undisturbed sleep is regarded to be important for optimal physiological and cognitive performance. Environment sound is one of the most prevalent causes of sleep disruption. Whenever sleep disturbance becomes a regular occurrence, it may lead to mood fluctuations, poor productivity, and various long-term medical and well-being issues. Many recent studies have mostly concerned with noise from planes, highways, and railways. Noise levels of more than 30 dB, for example, have been shown to disturb sleep. In the case of continuous noise, the risk of being awakened increases as the frequency of noise occurrences each night increases (Giv et al., 2017). The most frequent sleeping interruptions are difficulties falling sleep, numerous wakefulness, awakening too soon, and variations There has been a decrease in the number of sleep phases and depths, particularly in REM sleep. Elevated blood temperature, increased pulse rate, higher pulses duration, bronchoconstriction, variations in breathing, heart arrhythmia, and enhanced bodily activity are all caused by noise during sleep, in addition to various effects on sleep itself. Each of them might have various threshold and response linkages. Many of those impacts decrease with repeat contact, like waking; another, like cardiac responses, do not. Secondary effects (also termed as after affects) Fatigue, a bad mood, and bad productivity are some of the things that are addressed the next day. Sleep deprivation and a shift in circadian cycles have also been related to a loss of attention, which has culminated in mishaps, injuries, and death (Giv et al., 2017).

- ***Disturbances of the Cardiovascular System:***

According to a growing corpus of research, Humans are affected by noise contamination in both the short and long term (and other animals) through the hormonal and parasympathetic nerve networks. Noise is supposed to act as an all-purpose physiologic stressor, prompting the form to respond in manners that ready it for a battle or escape reaction. As a consequence, noise may trigger endocrine and parasympathetic nerve system responses that touch the circulatory system, making it a possible cardiovascular disease risk factor (Sinha et al., 2012). These effects are triggered by long-term everyday contact to sound rates above 65 dB or sudden response to hearing rates exceeding 80 to 85 dB. Acute noise exposure causes neurological and hormonal reactions, resulting in temporary increases in blood rate, heart rate, and vascular constriction. According to research, Increased cardiac rhythms and peripheral resistance, greater blood pressures, greater blood stiffness and plasma lipid levels, induced electrolyte abnormalities, and higher stages of adrenaline, norepinephrine, and cortisone were seen in individuals exposed to occupational or ambient noise. Noise that arrives out of nowhere might elicit emotions as well. Even if the noise does not impede with the participants' sleep, it may nevertheless elicit autonomic responses including the production of adrenalin, dopamine, and glucocorticoid. These results demonstrate that it is difficult to get accustomed to nocturnal noise, and that beeping contact that is just transitory generates physiologic changes that are rapidly reversed (Meza et al., 2021). Noise exposure with a high level of intensity, duration, and predictability, on the contrary hand, induces changes that are difficult to reverse. Noise exposure has been linked to the establishment of myocardial illness in studies on the influence of ambient noise. Even while the increased risk of interference cardiac illness is minimal, it has public health implications since both the number of individuals at risk and the amount of noises they are exposed to are increasing (Sharma et al., 2020).

- *Mental Health Disturbances:*

While sound contamination is not regarded to be an illness, it is believed to expedite and exacerbate the emergence of dormant mental infections. Noise pollution causes anxiety, tension, nervousness, nausea, headaches, mental stability, belligerence,

sexual dysfunction, change in attitude, heightened social disputes, neurotic, hysterics, and insanity. Based to population studies, noise has been connected to psychological indices like as well-being evaluations, symptoms profile, The usage of psychotropic pharmaceuticals and sleeping pills, as well as the number of people admitted to psychiatric hospitals. Because they may lack effective coping mechanisms, children, the elderly, and those with underlying melancholy might be a little more prone to these consequences. Children who are exposed to noisy environments grumble about the loudness and indicate a worse standard of living.

## 2. DISCUSSION

Hearing pollutants, also referred as environmental disturbance or reasonable smog, refers to the spreading of sounds that has a range of consequences on people or creature behaviour, the majority of them are harmful to some extent. Outdoor noise is mostly caused by machinery, vehicles, and dispersion systems all around the world. Poor urban design may result in noise disintegration or pollution, and sound smog in residential areas can result from the construction of commercial and domestic buildings adjacent to one another. Loud music, travel (traffic, train, airplane, etc. ), lawn care maintenance, construction, electricity generator, wind farms, explosives, and people are all common sources of noise in residential areas. Noise levels over a certain threshold have been related to adverse cardiovascular effects in people, notably an elevated risk of myocardial artery diseases. By disturbing predatory or food identification and aversion, messing with reproductive and guidance, and inducing permanent auditory loss, noise may increase the risk of death in wildlife.

## 3. CONCLUSION

Hearing (unwanted sound) may be hazardous to one's health. Noise pollution may cause hypertension, anxiety, vertigo, hearing impairment, and sleep disturbances, and other negative consequences. Noise pollution impacts people's health and quality of life since it is any annoying or unwelcome sound. Lengthy loud noise exposures could cause

auditory loss and stress-related disorders. Noise pollution has a greater impact on children than on adults, and it also has an impact on overall well-being.

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