INTRODUCTION

Noise pollution is an extra, unreciprocated and unbearable noise in the environment. It is one of the reasons for making people feel uncomfortable and has been highlighted in the 'Declaration of Environmental Issues'.

Noise pollution is a growing problem both for the developed and the developing countries, especially in the urban areas. Pakistan continues to face serious environmental issues including noise pollution with an increasing population at the rate of 3% per annum.

Several sources of noise pollution have been reported. The World Health Organization (WHO) Guidelines for Community Noise narrates different sources of noise from outdoor and indoor including road, rail, air traffic, industries, construction and public works, home appliances, power tools, lighting hum, audio entertainment systems and the neighborhood with road traffic being the main source in developing countries.

Noise levels between 60 and 65 dBA considerably increase annoyance, and those above 65 dBA are found to have serious impact on the perceived quality of life effecting behavior change patterns.

Hearing problems, lack of sleep, fatigue, communication difficulties, hypertension, ischemic heart diseases, annoyance, headaches, decreased school and work performances, stress, poor concentration, tinnitus, and a loss of psychological well-being have been reported due to increase in the noise levels. It is reported to be associated with myocardial infarction with levels of 50 dB at night by increasing the risk of cortisol production. Sound levels as low as 40 dB (about as loud as a refrigerator) can generate annoyance and 45 dB or lower can cause sleep disturbance.

There has been a rapid rise in noise levels in the past 30 years, especially in urban areas of Pakistan with no legislation in place to control or to deal with noise emanating from vehicles, railway engines, aircrafts, airport or industrial or construction activities. Federal and provincial environmental protection agencies receive public complaints on noise pollution. However, due to lack of national standards for noise no legal action can be taken. Road traffic noise is another most common source of noise annoyance in the urban areas of Pakistan. With the rapid rise of road traffic density, the situation is getting alarming, particularly in Karachi.

A study conducted with public transport drivers at Lahore reported that 65% of the subjects had Noise Induced Hearing Loss (NIHL). National Environmental Quality Standards (NEQS) were established in 1983 for motor vehicle exhaust and noise. The maximum permissible noise emission for motor vehicle noise during day time allows limit of 85 dB.

National standards for recommending noise limits for residential areas, industrial areas, commercial areas or silence zones are lacking. Furthermore, no national survey has been conducted to assess noise level in cities. However, random tests in different cities showed...
that the noise level is much higher than the acceptable limits.¹

Karachi is one of the worst affected cities due to unchecked and uncontrolled noise pollution. Population growth rate of Karachi is about 3.0% per annum that depicts the annual growth of population at risk. A study conducted in Karachi reports that about 83% of street policemen, 33% of rickshaw drivers and 57% of shopkeepers in a busy shopping areas had noise induced hearing loss.¹,16 This neglected issue needs a serious attention and continuous surveillance to evaluate the quality of life and awareness within the community.

The objective of the study was to identify awareness regarding noise pollution and its adverse effects on human health in the community living in the urban areas of Karachi.

**METHODOLOGY**

A cross-sectional survey was conducted with convenient sampling technique through a questionnaire among 50 adults living in densely populated urban areas of Karachi including North Nazimabad, Defense, Gulshan-e-Iqbal, Nazimabad, and Korangi. The questionnaire was developed based on literature and piloted on a group of 4 people other than those involved in the study with their informed consent. Modifications were made according to the responses. The questionnaire covered aspects of noise pollution through items related to noise pollution and its sources, frequency, noise pollution in the residential and work area, its potential harmful effect and disturbances in daily life, current levels of noise, health implications, public awareness, and whether there were any noise pollution regulations in place. The nature and purpose of the study was explained and confidentiality was ensured. All those who provided their informed consent were included in the study. All data gathered was through the questionnaire. Descriptive analysis was done on Statistical Package for Social Sciences (SPSS) version 11.0 with percentages.

**RESULTS**

There was a 100% (n=50) response to the idea of noise pollution in the public. For the sources of noise pollution, 64% (n=32) responded in favor of vehicles being the major source of noise pollution. Around 6% (n=3) said people themselves were the major source of inducing noise pollution. Another 22% (n=11) responded to both, vehicles and people as major source of noise pollution. Around 8% (n=4) said that there are other sources including music, machinery, construction work and commercial area, causing noise pollution. Regarding the frequency of noise pollution, 34% (n=17) responded there is noise pollution all the time, 44% (n=22) responded it to be often, 14% (n=7) responded it to be sometimes whereas 8% (n=4) said noise pollution is heard seldom. Regarding pollution in the work area, majority (52%, n=26) responded that they do not have any noise pollution in their work area. Around 36% (18) said they do have noise pollution in their work area whereas 6% (3) were not sure. Regarding noise pollution in the residential areas, 44% (n=22) responded that there is noise pollution in their areas while 50% (n=25) neglected while 6% (n=3) did not know.

Regarding problems due to noise respondents, 34% (n=17) said they had general disturbance due to noise, 22% (n=11) said they felt annoyed, 14% (n=7) had headaches, 6% (n=3) said it causes hypertension whereas 2% (n=1) responded it to cause sleeplessness and fatigue. Majority 96%, (n=48) respondents said that there is a harmful effect on hearing due to noise pollution. Another 78% (n=39) said that there were other effects of noise pollution on health that are hazardous whereas 12% (n=6) said there are no other hazardous effect to health.

Around 68% (n=34) responded to have partial disturbance in their routines due to noise pollution, 18% said there was complete disturbance, whereas, 14% (n=7) reported no disturbance. There was 90% (n=45) agreement on noise pollution regulations to be in place.

**DISCUSSION**

The present study deals with the survey of awareness of noise pollution and its effect on health among the
habitants of Karachi in Urban areas and need of laws and regulations to control the excessive noise levels. Although the general public is aware of the noise pollution, its sources and consequences on health but since noise produces no dramatic ill effects, the public has been largely uninterested in its suppression. Many studies have reported the high noise levels (around 95 dB +/- 5 dB) in different areas of Karachi, Lahore, Peshawar, Rawalpindi and Quetta due to traffic which also confirms vehicles as the major source of noise pollution. However, there were no studies found reporting the awareness amongst the general public. It has been reported that excessive noise can lead to hearing loss, lack of sleep, irritability, heartburn, stress, indigestion, high blood pressure and possibly heart disease. In densely urbanized areas environmental noise is one of the major issues compromising human health and well-being. The responses to the noise pollution in work area might be less due to the fact that the work areas are closely constructed, away from the main streets or probably the offices are isolated. However, excessive noise levels cause annoyance, headaches, lack of sleep, stress and fatigue which may lead to unwarranted health problems like heart diseases. A study reports that Karachiites are exposed to excessive noise levels for around 8 - 10 hours a day which includes traffic and other forms of community noise, however, the people are ignorant of the hazards. The habitants of Karachi responded that laws and regulations regarding control of noise pollution are very much required. Measures need to be taken to create awareness of the ill effects of noise pollution on the health amongst the general public. According to the restatement of the law of torts, two categories are considered for the purpose of noise law regulation (i) the right of the complainant against a person (ii) right of the complainant against the government / government authorized agency. WHO has emphasized on the need for protecting environment through noise control in the community. A study reports that noise pollution often persists because only five to ten percent of people affected by noise will lodge a formal complaint. Many people are not aware of their legal right and do not know how to register a complaint.

This study confirms that the habitants of urban areas of Karachi are affected by noise pollution, however, they are not consciously aware of the ill effects of noise on health. There is a need to study the ill effects of noise pollution with substantial evidence based study. Since this study was limited to a limited sample size, the results could not be generalized to the general public and hence external validity is limited.

CONCLUSION

Awareness of noise pollution and use of laws and regulations regarding noise pollution in the habitants of Karachi at urban areas needs to be created. Furthermore, research is needed to examine coping strategies and the possible health consequences of adaptation to noise.

REFERENCES

The ringing bells: perspective of Karachiites regarding noise pollution


