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Noise in bars: analysis of an environmental problem in the city

Ruido en bares: análisis de una problemática ambiental en la ciudad

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Abstract

The problem of noise in bars is critical and it has increased in residential areas where urban development plans often do not consider this kind of pollutant when granting the municipal license for these entertainment venues. Part of the problem is failure in applying specific land management policies to enable peaceful coexistence between entertainment premises and neighbors. This paper presents the results of a noise study in a bar and the neighboring area where dwellers complain about elevated noise that restrain their rest. Within premises equivalent continuous sound level (LAtt) ranged from 77.4-82.9 dB A in at least 50% of measuring time. Concerning the residential area, LAtt ranged from 52.0 -58.0 dB A and occasionally reached maximum levels of 68 -73 dB A. Recorded levels in the residential area do not comply with Mexican law of 50 dB A to guarantee a peaceful atmosphere for residents to rest and enjoy their homes.

Noise, Environment, Bars, City, Urbanization

Resumen

El problema del ruido en los bares es crítico y se ha incrementado en las zonas residenciales donde los planes urbanísticos muchas veces no consideran este tipo de contaminante a la hora de otorgar la licencia municipal para estos espacios de entretenimiento. Parte del problema es la falta de aplicación de políticas específicas de ordenación territorial que permitan la convivencia pacífica entre los locales de ocio y los vecinos. En este trabajo se presentan los resultados de un estudio de ruido en un bar y en el área vecina donde los habitantes se quejan de ruidos elevados que restringen su descanso. Dentro de las instalaciones, el nivel de sonido continuo equivalente (LAtt) osciló entre 77,4 y 82,9 dB A en al menos el 50% del tiempo de medición. Respecto al área residencial, LAtt osciló entre 52.0 -58.0 dB A y ocasionalmente alcanzó niveles máximos de 68-73 dB A. Los niveles registrados en el área residencial no cumplen con la ley mexicana de 50 dB A para garantizar un ambiente tranquilo para el descanso de los residentes. y disfruta de sus hogares.

Ruido, Medio Ambiente, Bares, Ciudad, Urbanización

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Introduction

Noise as an environmental problem has a significant influence on people's quality of life, there are numerous noise sources found in cities, many come from mobile sources such as: vehicles, buses, freight transport, motorcycles and the fixed sources have their origin in industries, workshops, and services such as restaurants with live music, bars and discos. It is very common that noise levels generated in this type of facilities go beyond the physical barriers of the site. Entertainment venues in residential areas might be an annoyance source disturbing sleep and rest due to involuntary exposure. Attention of noise pollution demands characterization of sources as well as proposals and measures of attention.

Some alternatives may allow characterization of noise and its attention because these types of establishments are considered direct and indirect sources of work that strengthen the economy and generate entertainment options for locals and visitors.

This is why this study was carried out, as part of a requirement of local authority to respond neighbor complain of high noise levels late at night.

The study was carried out in accordance with national standards for noise studies, NOM-081-SEMARNAT-1994. The regulation establishes the maximum permissible limits of noise from fixed sources and its method of measurement.

Practically all the activities of man influence in one way or another on their natural environment. The negative relationship of human activity about the environment has multiplied in a relatively short period of time and it has reached such dimensions that it poses a serious threat to health and even life. Noise pollution may possibly be one of the oldest and received little attention until recently (García, A. 1991), being one of the most subtle pollutants with which humans flood the world. Noise is a physical agent that can be seen, or smell, however it can cause discomfort, health problems or deafness in people exposed to excessive constant noise (Beristain, S. 1998).

Noise has always been a major environmental problem for humans. In some cities of medieval Europe, carriages and horses were not allowed at night, to guarantee a quiet night for its inhabitants. The problems produced by noise in times past are unmatched in modern life (Mage y Zali, 1992).

"Noise" can be defined as unwanted sound or a sound in the wrong place and time, it is fundamentally a byproduct of human activity. The definition of "noise" as "undesirable" sound implies that it has an adverse effect on humans and their environment, including land, structures, and domestic animals. It can disrupt wildlife and ecological systems. (Canter, L. W. 1998). The possibility of negative effects on human health has stimulated research in this field and has been an important motivation for the fight against noise pollution (García, A. 1991).

The human ear picks up sound waves that are present in the air and they transport to the fluid contained in the inner ear, which acts as a transducer, transforming mechanical vibration signals into nerve impulses that transmit acoustic information to the brain. The auditive system is used to communicate, listen to music, locate sound sources and to hear annoying noises. Forming part of the auditory apparatus it is the ear, consisting of a complex organ capable of distinguishing a great resolution both frequencies and sound intensities, through a complex process of sound reception and analysis. (Ochoa, 1990).

The noise produced by the different sources, everyday puzzles and increases the threat to society. Loud sounds can cause permanent damage to the hearing organ. Noise is an environmental problem associated for a long time with the development of the different cultures of the world. Two aspects of the problem, the biggest bewilderment for society today is noise in workplaces (which can damage workers' hearing) and the noise present in our daily lives. (Ryding, 1992).

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Major sources of noise are air traffic, road, construction, industry, recreational activities, and human noise. These types of noise are generally on the rise as urban centers they become more and more populated, the industry expands and the need for transportation increases. Noise is what most directly affects workplaces, where hearing loss is the most common condition. Nevertheless, urbanization rates around the world exceed the skill of city planners, to protect residents from noise, increasingly becoming a globalized urban problem. (Yassi, A. 2002)

Hearing loss problems are especially severe in certain industries. Some clinicians are of the opinion that constant exposure at work at levels the 90 dB (decibel) in the human ear range is dangerous, while 80 dB are not, based on many studies. This has resulted in an exposure of 85 dB for 8 hours being the limit that must be tolerated, without protection. Generally, the ears begin to bother approaching 120 and to hurt at 140 dB. (Mugica, A. 1996).

Speaking only of noise, it should be noted that apart from its physical characteristics, there is an important subjective component that makes the same sound can be considered pleasant or annoying, or even indifferent. Some factors that influence this subjectivity are the time of day, the degree of attention or concentration of people recipients, who produces the noise and who suffers it, if it is familiar or strange, it is continuous or intermittent. (Ochoa, 1990)

Noise has features that distinguish it from other environmental pollutants. Sounds are part of daily life; they are necessary for the normal functioning of the human body. The difference between sound and noise is that every activity carried out produces a level sound effect to a greater or lesser degree. The distinction between the two concepts is linked to subjectivity and context. Sound has a harmony, a message and a time, and noise lacks these elements. (Alfie y Salinas 2017).

People who undergo conditions of absolute silence can develop symptoms of mental disorders. The absence of auditory communication due to deafness can induce changes in personality and the conditions of absolute silence can be categorized as frightening situations. As the level of sounds increases in intensity, the negative effects begin to dominate; the last effect is direct trauma when the receptor organ is destroyed. Although positive responses to exposure to sounds are important, generally the negative effects are the ones that attract attention. (Mage y Zali, 1992).

Recently, noise has received attention and has been considered a public health risk. This in non-auditory terms affecting the human body particularly those with hypertension. However, much work remains to be done to quantify physiological effects. There is a wide variation in reaction to noise disturbance and activity interference, with both acoustic and non-acoustic factors affecting individual judgment. (Ryding, 1992).

Noise produces effects directly related to quality of life among others such as the physiological and psychological character, unfortunately have been very little studied to date. Noise can cause or increase the probability of generating symptoms related to any nervous condition, especially if a person is predisposed to it, effects such as irritability, aggressiveness, fatigue, emotional imbalances, and social conflicts are frequent (de la Fuente, G.R. 1997).

Increasing the intensity of sound increases the risk of hearing loss. The risk begins with prolonged exposure to sounds of approximately 75 dB (A) (WHO, 1977). The physical effect of very high intensity sound waves can cause from acute pain and rupture of the eardrum to gradual loss of hearing due to permanent injuries to the inner ear. Sometimes referred to as a direct effect. Physiological changes that can be registered include sleep disturbances and psychological damage; they are considered indirect effects (Yassí. A., 2002). It must be taken into account that all the effects vary from one person to another and may not even to have some symptoms (Ochoa, J. 1990).

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The decrease in listening capacity due to age begins to appear around the age of 60; However, these symptoms are appearing among younger people. The decrease in listening skills is the product of overexposure to sound amplification systems: "Previous generations will have deafness problems, typical of age, around 60 years, but in the case of current, they can present from 45 years, that is, they are advancing 15 years a defect that was typical of the third age" (Rabadán, 2010).

Other effects that occur with exposure to noise are: Irritability of the nerves, affecting emotions and behaviors in various specific ways, causing discomfort, and interfering with work, as they impede concentration. All of this causes tension, excitement, and irritability. There are also the effects such as pupil dilation, pale skin, voluntary or involuntary tension of the muscles, decreased gastric secretions, increased diastolic pressure and sudden adrenaline discharges that increase neuromuscular tension. Impulsive noises seem to be worse than continuous noises, as they startle people and can cause accidents (Múgica, A. 1996).

Hearing loss due to noise exposure is permanent and cannot be corrected by surgery or medication. The effects on hearing are cumulative; The more the ear is exposed to noise, the greater the loss. The loss occurs when the delicate auditory hair cells are damaged. (Health & Safety , 2004).

The annoyance is most evident in urban centers and around airports. According to the definition of health, subjective annoyance should be considered as an important cause of effect on health and reason enough to take measures against noise. (Yassi, A. 2002).

Unlike other pollutants, the control of environmental noise has been made difficult by poor knowledge of its effects on human beings and the dose-response relationship, as well as the absence of defined criteria. Although it has been suggested that noise pollution is a “luxury” problem typical of developing countries due to inadequate planning and poor construction of buildings. However, the effects of noise are usually transmitted, and the health consequences are the same. From this perspective, practical actions to limit and control environmental exposure to noise are essential. These actions should be based on an adequate scientific evaluation of the available data on their effects. (Mage y Zali, 1992).

When interest arose in assessing noise annoyance in society, we began by studying the relationship between physical measurements of noise and the statistical response of a group of people to easily measurable continuous noise (Ochoa, 1990).

The incompatibility of land uses in the city and the lack of adequate zoning has contributed to the difficulties for the inhabitants to enjoy a continuous sleep because they tend to wake up due to the noise of the neighboring commercial establishments. (Domínguez y Gortari 2016).

Urban noise

According to data from the Organization for Economic Cooperation and Development 130 million inhabitants of its member countries have sound levels above 55 decibels, which is the limit accepted by the World Health Organization, and another 300 million reside in areas of acoustic discomfort, that is, between 55-65 dB.

Noise as an environmental factor causes damage related to the deterioration of health, it is very common that in cities actions that violate noise levels are penalized, most of the time linked to schedules and living areas. As with industrial noise, it is possible to measure and analyze both internal and external noise. Unlike the industrial case, internal noise can reach, with potentially harmful characteristics, not only the personnel (which must be considered under the rule of labor legislation) but also the assistants, who, not being protected at work, have no requirements of any kind in terms of periodic examinations, audiometry, etc. (Miyara, F. 2004; Miyara, F. en Orozco, M. & González, A. 2019).

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In large cities there are various sources of noise that contribute to urban noise, such as vehicle traffic noise, industrial noise, and noise from premises.

The noise produced by public works or the construction of access roads could be considered as traffic noise. Compressors, air hammers, excavators and heavy vehicles of all kinds produce such high levels of noise that, regardless of the significance of prosperity and development that they may symbolize, they are the target of many of the complaints of the residents of our cities. (Morales J. & Fernandez J. 2009)

Noise as an occupational hazard has been known for many years. However, it was not until the advent of the industrial revolution, when factories began to replace human force with machines, that exposure to noise became truly important as a factor in producing health disorders in workers. (Hernández A. & González Méndez B. M. 2007)

The problem that concerns it includes the alteration of both physical and mental health, being the most important aspect in this case, the evident decrease of the hearing capacity or hypoacusis of the employees in the work environment in whom most of the times it is not diagnosed or treated in time to recover the hearing function. (Gómez M. *et al*, 2012).

Noise from leisure premises: Leisure premises are a source of noise, since high volume music is played inside them, there are air-conditioning devices and they influence the behaviour of users, since they serve alcoholic drinks and indirectly establish the hours of activity of these users in the surroundings of the premises (Pinedo, 2001).

In Spain, 7 % of noise nuisance during the night is due to leisure noise, the third source of noise that causes nuisance during this period. (Ballesteros M. J. & Fernández M. D. 2014).

Noise in young people

There are various sources of non-occupational or recreational noise exposure, with music at high sound levels being the most common for most young people, heard either at home, away from home, or through personal music equipment.

Noise-induced hearing loss is determined by exposure to noise and everyday events, and all age groups can suffer from it. Exposure to different types of noise from early childhood can have a cumulative effect on adult hearing loss. (Basner M. *et al*. 2014)

In one study, 66% of young adults attending nightclubs or rock concerts in the Nottingham area of England reported temporary hearing loss or tinnitus. (Smith P., Davis A., Ferguson M. & Lutman M., 2000)

There are activities for which studies show a serious affectation of the hearing, because of the high volumes of sound used, long exposure times, the participation in night clubs and discos where the average noise levels measured in these places, are in the range of 100 dB and the calculated attendance can be in the order of several hours per week. These environmental conditions are undoubtedly sensitive for noise to be a potential risk, with subsequent effects on hearing (Hernández et al, 2019).

Measures on noise control

Noise control and hearing conservation provide an example of how health standards interrelate. Authors of the WHO Noise Environmental Health Criteria monograph (WHO, 1980a) concluded that noise-induced hearing loss occurs from 75 dB A. However, many countries have adopted a maximum average occupational exposure level of 90 dB A, for 8 hours of work since it was considered high cost, establish reductions for minor exposures. The Factories and other workplaces with noise levels close to 90 dB A are required to carry out studies to assess sound levels conducting studies to evaluate sound levels. If the average sound level exceeds 85 dB A, the employer must implement a hearing protection program in that position or workplace; However, researchers from the WHO (1980) point out that it would be better to establish these programs from 75 dB A.

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Hearing conservation measures include controlling noise sources (acoustic covers, noise-proof containers, noise absorbing mounts for vibrating equipment, among other measures that may be necessary), provide workers with personal protective hearing devices (ear plugs, protective ear covers), and conducting annual audiometric exams. Using equipment called an audiometer, a technician measures the ability of workers to perceive noise of different tones or frequencies; the lowest audible sound at that pitch is referred to as the threshold of audibility. When the worker presents hearing loss in a given tone, it is called permanent modification (elevation) of the threshold (Yassi, A. 2002).

Effects on the hearing system

Exposure to noise can cause different auditory and extra-auditory responses, this will depend on the characteristics of the risk and the exposure of the individual.

Deafness depends on characteristics linked to people, the environment, and the aggressor agent. Hearing losses caused by excessive noise can be divided into three types: (Ganime, Robazzi, Valenzuela y Faleiro, 2010).

1. Acoustic trauma: Which is the sudden loss, caused by the perforation of the eardrum, accompanied or not by the disarticulation of the ossicles of the middle ear.

2. Temporary deafness: also known as temporary hearing threshold change, it occurs after exposure to intense noise, for a short period of time.

3. Permanent deafness: It is the repeated exposure to excessive noise daily, which can lead the individual to permanent deafness.

Noise-induced hearing loss starts specifically with a loss in the 4000 Hz frequency, then gets worse, affecting also other lower frequencies, where oral communication takes place. An early sign of hearing loss may be given by the prolongation of the recovery time from the transient elevation of the hearing threshold of the worker's ears a few hours after the cessation of the noise exposure. (Yassí, A. 2002).

Extrauditive effects

The effects of noise translate into stress, being described as psychic, physiological and even anatomical alterations in several animal organs and in the human himself. (Cohen, 1973)

Noise can affect organs other than the hearing, giving rise to several extra-auditory effects, the hearing nerve pathways establish connections with other organs and systems through the autonomic nervous system, and motor effects can be observed (muscle contractions), vegetative (variations in heart rate, peripheral vasoconstriction, increased blood pressure, slowed respiratory movements, etc.) and electroencephalographic (desynchronization). (Del Prado, 2014).

The cardiovascular system is affected by heart rhythm disturbances. For example, some studies show that workers in the steel and foundry industries have a high incidence of heart rhythm disturbances. All these effects related to the heart seem to be transitory, disappearing quickly when exposure to noise ceases. (Ochoa, J. 1990).

Increased blood pressure is also linked to noise, since it increases after acute exposure, it has been suggested that long-term exposure may induce a continuous increase in blood pressure. (Mage y Zali, 1992).

This study aims to apply the methodological guidelines of NOM 081 SEMARNAT, 1994, for the measurement of noise from fixed sources, so we present the results of a diagnosis of perimeter noise in the periphery of a bar, which has been the subject of recurrent complaints by neighbors, for the discomfort it generates them particularly at night.

Measurement methodology

As specified by the Mexican standard (NOM-081-SEMARNAT-1994), after a pilot measurement to identify noise hot spots; continuous measurements were made in the "A" weighting band at each of the identified points with the highest noise level (Inside the bar: Points Ext 1, CEN1, CEN 2, EXT . For this purpose, we used a precision integrating sound level meter CESVA-160 with a current calibration certificate. The measurement time was 15 minutes with a resolution of 1 second, fixing the instrument to a tripod at a floor height no greater than 1.20 m.

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Since the source is located on the terrace of a six-story building, it was not possible to meet technical specifications of measurements concerning distance from physical barriers of premises. Besides, it is an area with a predominance of hotels and restaurants that made difficult to comply measurement standards. At ground level on median strip of avenue, three measurement points were established (Figure 2), in addition to five measurement points at 126 m from the source where residential area occurred and complains came from (Figure 3).

Features of sampling points in residential area were:

ZC 1 = In front of gate outside apartment building.

ZC 2 = Left of property of annoyed resident.

ZC 3 = Center of property of annoyed resident.

ZC 4 = Right of property of annoyed resident.

ZC 5 = Four meters to the right of property of annoyed resident.

Results

Source identification

The results presented here correspond to the measurements taken inside the bar, at ground level on median strip of avenue, and at 126 m distance from the source in residential area. Measurements were performed according to NOM-081-SEMARNAT-1994, when physical conditions of study allowed.

Noise level inside the bar

Figure 1a shows the equivalent continuous sound level (LAtt), as well as the maximum (LAT max) and minimum (LATmin) pulses recorded during the 15-minute measurement time at each measurement point.

The figure shows LAtt values in the range of 77.4 dB A – 82.9 dB A. LAT max and LAT min recorded values were in the range of 84.2 dB A - 86.3 dB A, and 64.8 dB A - 70.3 dB A respectively. It is also noticed from the graph that noise records at storehouse (BD 1 and BD 2) where the building's air conditioning system is confined, recorded values in the range of 60 dB A - 70 dB A.

Average of noise continuous level in the slow mode (LAS), as well as maximum and minimum pulses are shown in Figure 1b. LAS values ranged between 72.1 dB A - 80.8 dB A, from which better acoustical conditions prevail at storage house where noise barely reached 60 dB A. Thus, confirming that noise come from music and people having a good as the source of maximum pulses which values went from 76.7 dB A - 87.2 dB A.

Figure 1c illustrates the L10, L50, and L90 percentiles corresponding to the noise level recorded at 10%, 50%, and 90% of the measurement time. From these parameters, it is important to highlight that during 50% of the measurement time, the recorded noise level fluctuated between 74.0 dB A - 81.0 dB A within premises.

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Based on recorded values and in contrast to NOM-081- SEMARNAT-1994 specifications for "Ceremonies, festivals and entertainment events" a maximum level of 100 dB A is allowed for a period of 4 hours. Therefore, results in the study meet the standard.

Point distribution

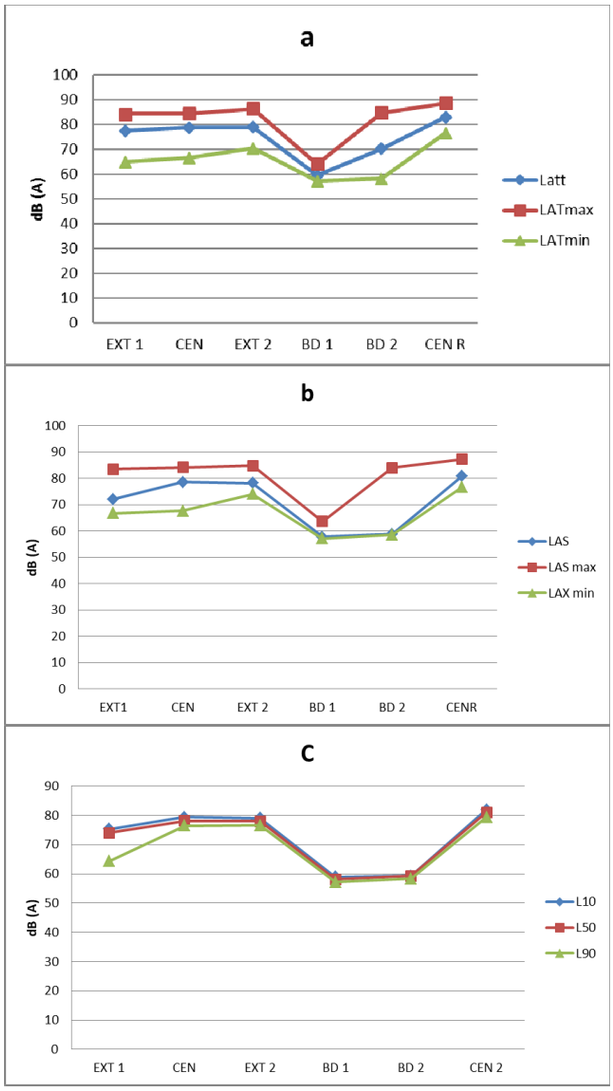

Figure 1 Noise levels recorded inside the bar and storehouse. (a) Equivalent continuous sound level (LAtt), maximum pulse (LATmax) and minimum pulse (LATmin); (b) Average noise level in slow mode (LAS), maximum (LASmax) and minimum values (LASmin); (c) Noise level recorded in 10%, 50% and 90% of measurement time

Outdoor noise level

Three sampling points were located on median strip of avenue in front of the building. However, the noise measured here did not come directly from the establishment in question but rather from road traffic. It should be mentioned that because of the height of the building, these measurements were within the acoustic shadow.

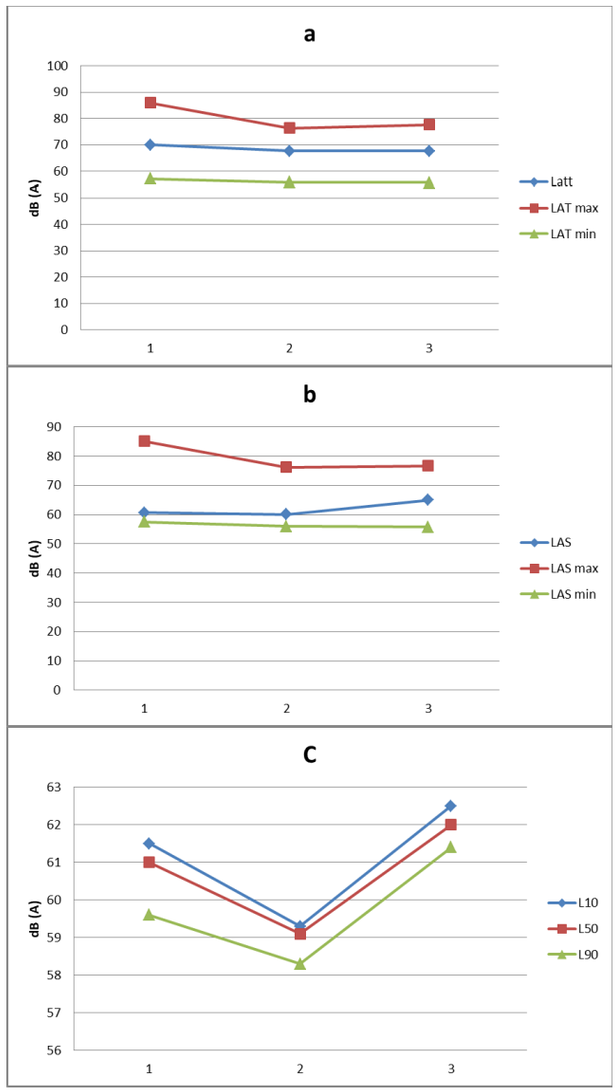

Figure 2 Noise levels outside the building. (a) Equivalent continuous sound level (LAtt), maximum pulse (LATmax) and minimum pulse (LATmin); (b) Average noise level in slow mode (LAS), maximum (LASmax) and minimum values (LASmin) me; (c) Noise level recorded at 10%, 50% and 90% of measurement time.

Noise in residential area

As established by NOM-081-SEMARNAT-1994, 5 sampling points were established every 5 m along the front of affected area. Distance of these points from the source was approximately 126 m. There was not possible to adjust to the distance marked in the standard since hotels and restaurants are located before that distance.

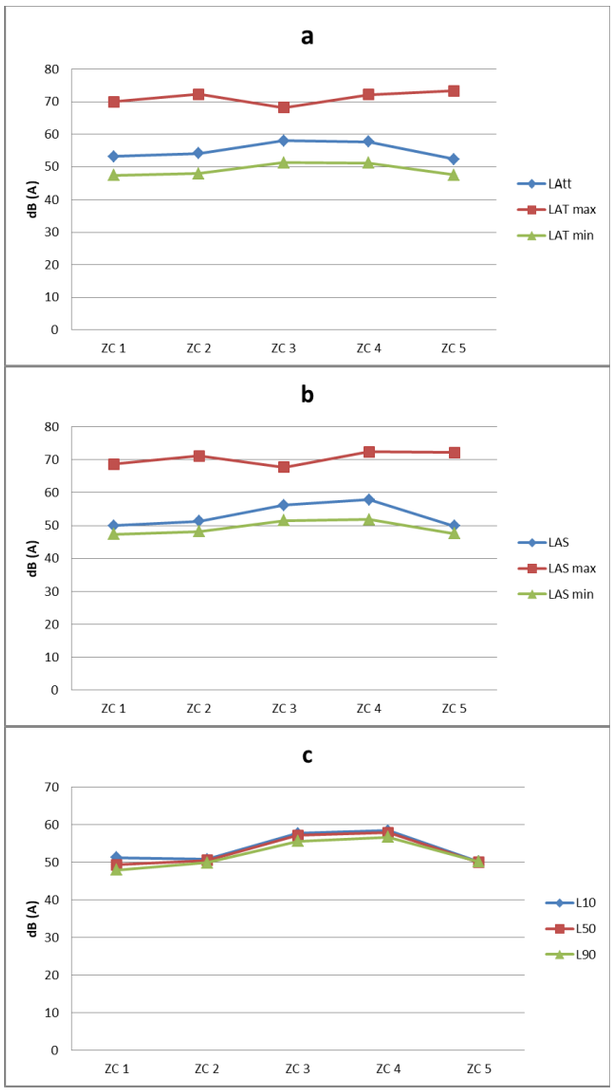

Figure 3 Noise level at residential area. (a) Equivalent continuous sound level (LAtt), maximum pulse (LATmax) and minimum pulse (LATmin); (b) Average noise level in slow mode (LAS), maximum (LASmax) and minimum values (LASmin); (c) Noise level recorded in 10%, 50% and 90% of measurement time

In Figure 3a, it is observed that LAtt during the sampling time ranged between 52 dB A-58 dB A, the maximum pulses (LAT max) occurred between 68 dB A-73 dB A, and the minimum pulses (LATmin) presented values between 47 dB A - 52 dB A. Noise level in its slow mode Figure 3b, recorded values between 50 dB A-58 dB A (LAS), with extreme maximum (LASmax) and minimum (LAS min) values of 67- 72 dB A and 47-52 dB A respectively. Figure 3c shows that in 10%, 50% and 90% of sampled time, noise was more dominant between 49 dB A -58 dB A.

In general terms, Figure 3 shows that the area with the highest noise levels for each of the parameters evaluated are the points directly in front of the building whose only obstacle is a wire rod gate. If specified values from NOM-081-SEMARNAT-1994 amendments published on December 2013, in particular those concerning maximum noise level in "residential zone 1 exteriors" are not met. The standard states average LAtt values of 50 dB A for the period of 22:00-06:00 hrs, range in which the bar operates. Found values in this study clearly exceeded standards, even in the area that was not residential, where there is a mixed use of land with commercial establishments, restaurants, bars, hotels and offices.

Recommendations

The acoustic quality of entertainment spaces has to consider both the recreational and acoustic part as well as not sacrificing the welfare of neighbors and workers, so the scenarios should take into account noise levels, along with other aspects of safety and health.

Carefully consider the effect that the materials they use have on noise levels to which operators of sound equipment are exposed, for example, hard and reflective surfaces can unnecessarily increase sound levels on stage. In contrast, soft, cushioning, or absorbent materials can reduce sound levels.

Several instances have been involved in making recommendations for noise control, one of them is the Institute of Occupational Safety and Health (Ministry of Labor and Immigration in Spain), which recommends methods for reducing noise in these workplaces (bars, clubs, and restaurants). Intervention can be grouped into two categories: physical separation and concentration of music in desired locations.

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Architects/designers and owners/promoters considering the construction of new buildings or renovation of existing ones should consult acoustic technicians and/or sound technicians before carrying out any major work. The noise in the premises is made up of three components:

- A direct path, which reaches the ear from the speakers.
- A reverberant path, which is the sound reflected on one or more surfaces.
- A structural path, which is transmitted through the fixing and assembly elements.
- Careful placement of the loudspeakers can reduce direct exposure; to reduce structurally transmitted noise, insulating mounting elements may be necessary.

However, many noise control measures are aimed at reducing reflected sound. This sound tends to increase the sound pressure level inside the room creating a reverberant field that overlaps the direct sound emitted by the source. Sound absorption allows you to control the reflection trajectories in addition to improving the quality of music playback.

Likewise, installing a vegetal barrier in the parking lot would help with the living area where the complaints come from or a fence made of acoustic material.

Follow-up in these cases is particularly important in moving towards attention to the noise condition.

Conclusions

Noise levels registered as equivalent continuous sound level that are recorded in the residential area fluctuate between 52 dB A-58dBA, however the noise is of multifactorial origin and by the characteristics of the area and the traffic that is presented that even is estimated in the 75 dB(A) (Orozco, 2005), can also come from the rest of the establishments in the area, the very night activity that takes place there, as well as the operation of the acclimatization systems of surrounding buildings.

It was measured at different days and times, critical hours of the morning were selected to make the measurement and days of high influx on weekends, the noise levels do not exceed the maximum permissible at the rate of NOM-081-SEMARNAT-199.

With due reservations, given the location of the property and the commercial characteristics of the area where the measurement was taken, if the following is taken as a basis: "Agreement modifying numeral 5.4 of the Mexican Official Norm NOM-081-SEMARNAT-1994, which establishes the maximum permissible limits of noise emission from fixed sources and their method of measurement", it would seem that the noise level inside the bar complies with the permissible one for "Ceremonies, festivals and entertainment events" in which the activity of the bar under study is classified.

It should be mentioned that due adjustments that had to be made to perform the measurements for the conditions of the place, so it is considered that if the neighborhood complaints are recurrent, some adjustments can be made in the way the speakers are directed and perhaps a series of minimum conditioning in the facilities of the place or simply an adjustment to the volume and thus ensure more favorable acoustic conditions in the area.

The problem of noise in cities is a pending issue on the part of the authorities, it is evident that although noise levels may be like those of vehicular traffic, there is a situation that arises that is the nuisance, which is normatively in Mexico It is not regulated, and unfortunately it is the one that most influences the effects on people's well-being and this situation of rejection indirectly diminishes the well-being and therefore the health of the people.

Public policies in urban spaces must advance regulations in establishments, such as space conditioning, schedules and urbanization plans, in this way there will be better acoustic quality conditions in housing areas, which are the most affected in night hours for the rest of the residents of clubs and bars.

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