SOPAAN :ISSN-2349-9893 | Oct'14-March'15

The Effect of Natural Surroundings on Mental Health

Sarsoha Ritu,
Faculty,
Dept. of Environment Science
P.G.G.C, Sector-46, Chandigarh
rsarsoha@yahoo.co.in

Abstract

The relationship between environment and health is very important .A healthy body and a healthy mind is the result of pollution free environment. A lot has been studied about the impact of pollution on human heart, lungs, skin and other body parts but very less is known about the impact of our natural surroundings on mood, concentration, intelligence, stress, annoyance, anxiety, depression, cognitive development and overall mental health. To lead a normal life physical and mental well being of a person is a prerequisite. Many studies have been conducted on animals also. The effects of air pollution on the lungs and heart, very little is known about the effect on mood and intelligence. Studies show that air pollution not only affects the behavioral problems in kids but also on the foetus in the womb. The impact of environment on our life begins before birth and continues throughout our lives. Present paper discusses the importance of nature and environment on behavioral problems especially among the kids and youth living in different surroundings. The paper focuses on a comparative study has been done by taking into consideration different parameters. Different parameters were used to study the impact of a environment, health and psychology.

Key Words: Environment, Pollution, Mental health, Psychology

INTRODUCTION

Health is an important aspect of our survival. Health does not include only the physical aspect, but mental, emotional and social health is also an integral part of our overall health regime. But world has undergone many transformations. Environment is becoming more and more degraded. The word "Pollution" has become as common as food. The world has grown in every aspect, be it in terms of population or in terms of technology. Air pollution is affecting our heart and lungs. The contaminated water is causing many diseases related to our immune system. There are many studies indicating effect of pollution on the physical aspect but the effect of pollution on mental health has not been studied so widely. From the recent studies, it is becoming more evident that the polluted air is not good for our brain as well. Researchers have found that high levels of air pollution may damage children's cognitive abilities, increase adults' risk of cognitive decline and possibly even contribute to depression. Our natural surroundings affect our life at every stage i.e. from a foetus in womb to the last stage of our lives. Effect of air pollution on pregnant women has also been studied by some researchers and it was found that the air pollution may impact a woman's long-term mental health and that of their unborn child. The women residing in locations with the higher levels of air pollution particulates were twice as likely to have a child with autism as those who lived in areas with the lower levels. There are different types of pollution and all kinds of pollution exhibits a significant impact on our physical as well as mental health. For example noise pollution can lead to hearing impairment, hypertension, heart disease,

annoyance, and sleep disturbance. Changes in the immune system and birth defects have been attributed to noise exposure. It has been found that high noise levels can create stress, increase workplace accident rates, and stimulate aggression and other anti-social behaviors. The most significant causes are vehicle and aircraft noise, prolonged exposure to loud music, and industrial noise.

In Norway, road traffic has been demonstrated to cause almost 80% of the noise annoyances reported. There may be psychological definitions of noise as well. Firecrackers may upset domestic and wild animals or noise-traumatized individuals. The most common noise-traumatized persons are those exposed to military conflicts, but often loud groups of people can trigger complaints and other behaviors about noise. Infants are easily startled by noise. Lanoix D. et al(2013) hypothesised that the association between environmental contaminants and mental health, particularly in children and elders, could be explained by a disruption of the stress system. He concluded that the hypothesis of the stress system, linking environmental contaminant exposure to adverse mental health effects, needs to be addressed in future research. In addition, in cases of environmental contaminants toxicity, clinicians could recommend the testing of the hypothalamic– pituitary–adrenal axis functioning in order to prevent children and/or the elderly to develop impairments due to its alteration. Muhammad, N., (2012) studied the fact of pollution on physical and mental health of the workers working in a tannery of Hazaribagh ,Bangladesh. He observed that the physical and mental health is directly related to one another. The results showed that the mental health of the people living in related residential area was better than the tannery workers. Srinivasan, S. et al (2003) studied the physical and mental health problems related to the built environment, including human-modified places such as homes, schools, workplaces, parks, industrial areas, farms, roads and highways.

SCOPE OF THE STUDY

Sample size
300 questionnaires were distributed to a conveniently generated sample.
Type of Sampling
The samples were selected through Convenience sampling.
Nationality of Sample
The respondents were Indians, mainly residents of Chandigarh and nearby Jagatpura area.
Age group of sample
Age ranging from 5 years to 70 years

OBJECTIVES OF THE STUDY

1. To assess if the environmental pollution is a determinant for the mental health.
2. To identify if the behaviroal problems among the children are a result of their natural surroundings.
3. To analyze the relationship of environment with different aspects of human behavior with respect to age.

RESEARCH METHODOLOGY

In this section we briefly explain the research methods used in the data collection. Questionnaire and interview method was adopted as small children and some illiterate people were involved among the respondents. The author employed questionnaire method for data collection to explore behavior of people living in a polluted area and those living in a less polluted area and reasoning for this behavior. We have analyzed the role of natural environment in determining the behavior of the residents. The survey was conducted in Chandigarh and nearby Jagatpura village. The purpose of selecting respondents from this group was to generate data from two different types of groups living in a completely different environment. The respondents were divided in three different age groups. A comparative study was done between residents of Jagatpura and sector 46, Chandigarh. Mainly migrants living in Jagatpura village were included in the survey. Elders staying in this area were less in number; mainly young migrants between age 15-35 were residing in this area. Our recruitment strategy was to encompassing a range of individuals from different age groups, genders and socio-economic groups. The secondary data were collected from relevant journals, books and other published data and from the government dispensary of sector 45 and GMCH 32.

THE STUDY

Table-1: Distribution of respondents on the basis of Concentration Problem:

Area	Age Group(Age in years)					
	5-15	Total	20-35	Total	55-70	Total
Jagatpura	45	50	35	50	45	50
Sector 46	25	50	15	50	20	50

Source: Primary Survey

Concentration level among the children of Jagatpura village was found to be quiet low. Out of total 50 respondents, 90 percent kids possessed lack of concentration while doing study, sports and other routine activities. While only 30 percent of the young respondents and 90 percent of the elderly of Jagatpura village lacked concentration. Among from sector 46 only 40 percent (20-35) years and people complained of lack of concentration.

Table -2: Distribution of respondents on the basis of Mood Swings

Area	Age Group(Age in years)

	5-15	Total	20-35	Total	55-70	Total
Jagatpura	38	50	42	50	45	50
Sector 46	35	50	40	50	42	50

Source: Primary Survey

Mood swings were reported among 76 percent children of Jagatpura while 70 parents from main city admitted the fluctuating moods of their children. There can be other factors also like single child family, lack of time from parents for their kids. Out of total respondents in age group 20-35 and 55-70, 84 percent and 80 percent of the young respondents and 90 percent of the elderly of Jagatpura village and 84 percent sector 46 respectively complained of mood swings.

Table-3: Distribution of respondents on the basis of Intelligence

Area	Age Group(Age in years)					
	5-15	Total	20-35	Total	55-70	Total
Jagatpura	25	50	25	50	20	50
Sector 46	48	50	48	50	48	50

Source: Primary Survey

Intelligence level both, among the children and 15-35 age group of Jagatpura village was found as low as 50 percent and 40 percent in the senior age group. While it was found equal i.e. 96 percent among the respondents of all the age groups of sector 46, Chandigarh.

Table -4: Distribution of respondents on the basis of Stress

Area	Age Group(Age in years)					
	5-15	Total	20-35	Total	55-70	Total
Jagatpura	45	50	50	50	45	50
Sector 46	30	50	35	50	30	50

Source: Primary Survey

90 percent of the children were found to be stressed in Jagatpura while the percentage was 60 in the sector area. Among young respondents all of the respondents were found under stress not only because of work conditions but mainly due to unhealthy, polluted and noisy natural surroundings. 70 percent of the young respondents from sector 46 were found under stress. The elderly group showed that 90 percent of the respondents from Jagatpura were under stress.60 percent of the respondents from sector 46 were found under stress.

Table -5: Distribution of respondents on the basis of Annoyance

Area	Age Group(Age in years)					
	5-15	Total	20-35	Total	55-70	Total
Jagatpura	45	50	50	50	45	50
Sector 46	30	50	35	50	30	50

Source: Primary Survey

Annoyance caused mainly due to air and noise pollution was recorded in 90 percent of the respondents of Jagatpura village, aged 5 to 15 years while in sector 46 residents it was 60 percent. Among young respondents all of the respondents were found under stress in Jagatpura while 70 percent among the respondents from the city were suffering from this behavioral problem .The elderly group showed that 90 percent of the respondents from Jagatpura showed these symptoms while the percentage was 60 in sector 46 respondents.

Table -6: Distribution of respondents on the basis of Anxiety

Area	Age Group(Age in years)					
	5-15	Total	20-35	Total	55-70	Total
Jagatpura	30	50	35	50	45	50
Sector 46	20	50	20	50	40	50

Source: Primary Survey

Anxiety level among the elderly people of Jagatpura area was found higher than the sector 46 residents. Anxiety was observed in 60 percent of the children in Jagatpura while the percentage was 60 in the sector area. Among young respondents 70 percent were found anxious. The elderly group showed 90 percent of the respondents from Jagatpura and 80 percent of the respondents from sector 46 were found under anxiety.

Table -7: Distribution of respondents on the basis of Depression

Area	Age Group(Age in years)					
	5-15	Total	20-35	Total	55-70	Total

Jagatpura	25	50	45	50	45	50
Sector 46	5	50	10	50	20	50

Source: Primary Survey

50 percent of the children were found to be under depression in Jagatpura while the percentage was only 10 in the sector area. Among young respondents 90 percent of the respondents were found under stress in Jagatpura area while in sector 46 Chandigarh The elderly group showed that 90 percent of the respondents from Jagatpura were under depression .40 percent of the respondents from sector 46 were found under stress. Depression among the sector people can be due to other social and family reasons.

Table-8: Distribution of respondents on the basis of Cognitive development problem

Area	Age Group(Age in years)					
	5-15	Total	20-35	Total	55-70	Total
Jagatpura	20	50	20	50	25	50
Sector 46	5	50	5	50	10	50

Source: Primary Survey

40 percent of the children were found to be having cognitive problem in Jagatpura while the percentage was only 10 in the sector area. Among young respondents again 40 percent of the respondents were found having cognitive problem in Jagatpura area while in sector 46 Chandigarh it was only 10 percent. Among age group 55-70 years it was concluded that 50 percent of the respondents from Jagatpura possessed this problem while percentage was only 20 among the respondents from sector 46.

DISCUSSION

Population has gone beyond the carrying capacity of the Mother Nature. For a decent life, human beings need a lot especially from the nature. More population has lead to more industrialization and hence more pollution and more environmental degradation. The polluted environment has put a lot of pressure on the inhabitants. From the above study it was found that the people living in the environmentally polluted areas tend to show more behavioral problems than the people who are a part of less polluted and less spoilt natural surroundings. An area which has more air and noise pollution more water and soil pollution will not be able to provide an environment of all round development of individuals and will offer more hurdles in a holistic health approach. The annoyance associated with sound may need to be considered in regard to health effects. Jagatpura is having an airport nearby and noise from airports is typically perceived as more bothersome than noise from traffic. Is an indirect effect on annoyance level. By sitting and walking in the well maintained parks and plantation done by the Chandigarh administration covering almost all the houses of the sector acts as a big stress booster. Furthermore, studies have

shown that a polluted area can cause significant irritation and noise stress within people, due to the great deal of time people spend in their residences. This can result in an increased risk of depression and psychological disorders, migraines, and even emotional stress.

The human brain compensates for background noise during speech production in a process called the Lombard effect in which speech becomes louder with more distinct syllables. However, this cannot fully remove the problems of communication intelligibility made in noise. When young children are regularly exposed to levels of noise that interfere with speech, they may develop speech or reading difficulties, because auditory processing functions are compromised. Children continue to develop their speech perception abilities until they reach their teens. Evidence has shown that when children learn in noisier classrooms, they have a more difficult time understanding speech than those who learn in quieter settings. Wakefield et al in 2002 observed that children exposed to air and noise pollution in learning environments experienced trouble with word discrimination, as well as various cognitive developmental delays. In particular, the writing learning impairment known as dysgraphia is commonly associated with environmental stressors in the classroom.

CONCLUSION

From the above research and survey it was found that the natural surroundings play a very important role in the physical and mental well being of a person. The people living in scenic beauty and restored natural view are mentally more healthy than the people living in the environmentally polluted areas. It can be concluded that the increased urbanization is taking a toll not only on the environment, but on the mental well being of the individuals of all the age groups. So there is a need to develop positive natural surroundings to sustain the overall health of the people and society.

REFERENCES:

1. Berman, M.G., Jonides, J. Kaplan's. (2008)The cognitive benefits of interacting with nature. Psychological Science,19,1207-1212

2. Field, JM (1993). "Effect of personal and situational variables upon noise annoyance in residential areas". Journal of the Acoustical Society of America 93 (5): 2753–63. (http://dx.doi.org/10.1121%2F1.405851).

3. Lanoix D, Plusquellec P. Adverse effects of pollution on mental health: the stress hypothesis. OA Evidence-Based Medicine 2013 May 01; 1(1):6.

4. Muhammad, N. Haque, (2012) Physical and Mental Health of Tannery Workers and Residential People of Hazaribag Area in Dhaka City, A.ASA University Review, Vol. 6

5. Gelfand, Stanley A (2001). Essentials of Audiology. New York: Thieme Medical Publishers. ISBN 1-58890-017-7.

6. Miedema and Oudshoorn (2001) "Hypertension and exposure to noise near airports" (http://www.medscape.com/viewarticle/516462).

7. Nelson, Peggy B. (1959). "Sound in the Classroom". ASHRAE journal 45 (2): 22–25.

8. Pichot, P. (1992). "Noise, sleep and behavior". Bulletin de l'Academie nationale de médecine 176 (3): 393–9.

9. Srinivasan,S., O'Fallon L. R., Dear Creating Healthy Communities, Healthy Homes, Healthy People: Initiating a Research Agenda on the Built Environment and Public Healtry Creating Healthy Communities, Healthy Homes, Healthy People: Initiating a Research Agenda on the Built Environment and Public Health,A.,(2003), Creating healthy communities, healthy homes and healthy people: Initiating a research agenda on built environment and public health. Am J Public Health. ; 93(9): 1446–1450.

10. Wakefield, Julie (2002). "Learning the Hard Way". Environmental Health Perspectives 110 (6)

11. Walker, JR; Fahy, Frank (1998). Fundamentals of noise and vibration. London: E & FN Spon. ISBN 0-419-22700-8.