

Pollution and Allied Health Menace in Slum of Jawahar Nagar Kachchi Basti, Jaipur, Rajasthan

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ABSTRACT:

Air pollution is responsible for the rising prevalence of chronic diseases and is one of the leading causes of death around the world. The ways in which people in the community think about exposure are an essential factor in determining how people will react to policies related to exposure, as well as whether or not they will accept those policies. Therefore, understanding. When determining the most effective methods of intervention, it is vitally important to take into account the points of view of the people involved. This research was conducted with the objectives of determining the levels of perceived pollution as well as the health risks perceived by residents living in slums, as well as the associations between those two aspects of the environment. An investigation of this kind was carried out in the slums of Jaipur on a sample size of one hundred residents who were at least 35 years old. In order to investigate the relationship between the perceived score and individual characteristics, the linear regression method was used. Using a technique known as "hot spot analysis." Residents of the Jawahar Nagar Jaipur highway road side reported an average level of air pollution that was higher than the level reported by residents of the interior. This was in contrast to the residents of the inner side and the outer road side of the slum areas that were located near Jawahar Nagar. In the neighbourhood that was the subject of the research, the residents' perceptions of the level of air pollution and the associated health risks were low. This suggests that there is a need to raise awareness about the sources of air pollution and the associated health risks.

KEY WORDS: Indoor Pollution, Slum, Jaipur, Health Risk

INTRODUCTION:

One of the many environmental and public health challenges that are currently being faced by the population of the world is exposure to urban air pollution [1]. A correlation between exposure to air pollution and adverse health effects has been demonstrated by a number of studies [2]. There is a wide range of negative health effects that can result from being exposed to air pollution. Respiratory illnesses, chronic diseases like cancer, unfavorable outcomes during pregnancy, and premature death are also included. There are approximately 3.3 million premature deaths that can be attributed to both indoor and outdoor air pollution each year, and the burden is greatest for those who live in countries with a middle-income level [3]. People who have low socioeconomic status typically have poor health, which makes them more susceptible to the negative effects of air pollution. Additionally,

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people who have low socioeconomic status, such as those who live in urban slums, are more likely to live closer to roadways and polluting industrial facilities, which exposes them to greater levels of pollutants. This is especially true in urban slums, where people live in close proximity to one another. They also have less access to health care, which makes it more difficult for them to get treatment for any health problems [4].

Dust, the burning of trash, emissions from vehicles and industries, and other sources are the primary contributors to outdoor air pollution in urban slums. When there is insufficient ventilation in these settings, pollutants from the outside air are able to make their way into households, thereby increasing the levels of indoor air pollution. The burden of air pollution in economically disadvantaged urban areas is increased because of the combination of indoor and outdoor air pollution. Indoor air pollutants are primarily caused by the combustion of solid fuels, which are common in developing countries. These fuels are used for both cooking and heating.

Households that make use of such fuels are typically found in poor communities located in rural areas or urban slums that have houses that have inadequate ventilation. Despite the fact that a number of studies have found a correlation between exposure to air pollution and health, the majority of these studies have been conducted in countries with high levels of income. In addition, very few studies have attempted to understand the perspectives of locals regarding air pollution and the risks associated with it, particularly among the population that is extremely low-income[5]. A recent study suggests a new framework for reducing the health impacts that are related to air pollution. This new framework incorporates strategies at regulatory, community, and individual levels to reduce both emission and exposure [6].

Contextual knowledge of the perceptions of both exposure and associated risk is required for strategies targeting either the community or the individual level.

The public's perception plays a significant part in how they react to environmental hazards and it is an essential element in the process of changing behaviors. Increasing people's awareness and level of knowledge is, consequently, a crucial component of any intervention aimed at encouraging protective behaviors. The assessment of environmental risks has led to the discovery of a connection between exposure and the likelihood of adverse health effects. On the other hand, not a lot of effort has been put into comprehending how communities feel about the dangers posed by the environment [7]. Intercession on both the community and individual levels for the purpose of minimizing exposure to air pollution are crucially important means for enhancing both public health and citizen participation. Studies on risk perception have shown that it can be broken down into multiple dimensions; with demographic, cultural, and political factors all playing a part in observed differences in perception. It has been discovered that irritation is one of the outcomes of air pollution and it is also thought to be a helpful indicator of the possible adverse effects of pollution on people's health in a community [24]. According to the findings of several studies, annoyance is a combination of an individual's perceptions and attitudes towards an exposure which can be affected by factors such as gender, age, and previous contact with the pollutant [8]. It is therefore essential to have a

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solid understanding of the public's perceptions and attitudes regarding air quality and the associated health risks, including annoyance, in order to successfully inform the design of intervention programmes and to encourage successful individual involvement in the mitigation process. It has also been suggested that interventions aimed at individuals could lower the baseline health risks and overall disease burden associated with air pollution [9]. Controlling hypertension and giving up smoking are two examples of such interventions; however, this list is not exhaustive.

AIMS OF THE STUDY:

Jawahar Nagar Kachchi basti Jaipur near highway side and inside slums are the study's setting. Both slums areas have poor salaries, low education, and high manual/unskilled employment rates. Both areas have unpaved roads, open trash burning, and cooking with sawdust or sisal or cotton/plastic sacks. In informal settlements of Jawahar Nagar Kachchi basti Jaipur, respiratory disorders, asthma, and acute respiratory infections are the major causes. With indoor air pollution, it is unknown how much slum people consider air pollution a health risk. So, this study sought to establish perceived air pollution levels, health risk, and irritation; among Jawahar Nagar Kachchi basti Jaipur slum inhabitants.

METHODOLOGY:

This study was nested in the Jawahar Nagar Kachchi basti Jaipur, Sustainable model for Cardiovascular Health by Adjusting Lifestyle and Therapy with Economic Perspective in Settings of Urban Poverty. The study recruited 35-year-olds from Jawahar Nagar Kachchi basti Jaipur, slums who gave informed consent. In either slum, the research recruited volunteers. Jawahar Nagar Kachchi basti Jaipur, used a census of adults over 35, while Jawahar Nagar Kachchi basti Jaipur, inside kachchi basti slum used a random sampling of similarly aged residents. Our study used the scale up data collection platform to give consenting participants in both slums our own data collecting tools. The informed consent form told participants that the research had different objectives and detailed them. In addition to personal data, the questionnaire asked participants about air quality, health consequences, annoyance, and air pollution information sources.

As can be seen in Table 1, the questionnaire asked respondents a number of questions regarding the degree of air pollution, the perceived associated health risk, and the annoyance caused by air pollution. The questions offered yes/no choices and an ordinal scale with five levels of severity. The respondents were asked to assume that people's level of annoyance due to indoor and outdoor air pollution from any source could be stacked on a ladder or staircases of five steps, with a low level (1) representing "No Annoyance" and a high level (5) representing "Extreme Annoyance." This assumption was made so that the level of annoyance could be measured. The next step in the process was asking respondents to rank themselves on a ladder based on the degree to which they were bothered by air pollution in their indoor and outdoor environments. The questions were taken from previous research that had utilised comparable scales; however, we changed the scales from 11-point scales to 5-point scales in our study. The ultimate composite measure was created by taking the

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average of the separate items that were previously standardised for each participant. The produced standardised scores were then converted to a scale ranging from 0 to 100 with the purpose of making interpretation simpler. This approach makes it possible to combine questions that use a variety of response scales. Scores that are high indicate that respondents believe there is a high degree of air pollution or that they believe there is a high health risk linked with air pollution.

RESULTS AND DISCUSSIONS:

Table 1: The following is a list of questions for the composite indices of perceived degree of pollution and perceived health risk connected to it.

S. No.	Questions	Remarks, if any
1.	In the neighbourhood that you call home (Jawahar Nagar Kachchi basti), how would you evaluate the overall quality of the air? Would you say it is (Very Low, Low, High, Very High)	
2.	To what extent do you believe that dust, vehicle emissions, industrial emissions, cooking fuels, burning trash, smelly sewage, cigarette smoking, and other factors contribute to the air pollution in the Jawahar Nagar Kachchi basti area? Options (None, Low, Moderate, High and Extremely High) (None, Low, Moderate, High and Very High)	
3.	What kind of rating would you give the air quality in your home? Choices between Very Low, Low, High, and Very High values	
4.	In the neighbourhoods of Jawahar Nagar Kachchi basti which of the following do you believe to be the primary contributors to the poor quality of the air (Dust, Automobile emissions, Industrial emissions, Cooking fuels, Burning rubbish, Smelly sewage, Cigarette smoking, and Other sources)? Options (Yes or No) (Yes or No)	
5.	How big of a threat do you believe each of the following factors—dust, vehicle emissions, industrial emissions, cooking fuels, burning trash, stinking sewage, smoking cigarettes, and other sources—poses to your family's health? Options (None, Low, Moderate, High and Extremely High) (None, Low, Moderate, High and Very High)	
6.	Do you believe that air pollution is the cause of any of the following health problems: a cough or cold, difficulty breathing, eye difficulties, asthma, cancer, heart problems, headaches, or other health problems? Alternatives (Yes/No)	

Sex, age, length in the community, marital status, education, and occupation were individual characteristics. Business, informal, formal, and unemployed/agricultural occupations were grouped together. The number of highly contaminated daily work locations (near busy highways, cooking places, dusty places, and factories) was the variable daily work location exposed to air pollution. Regression analysis employed air pollution information as heard or never heard.

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Table 2: The percentage distribution of respondents' job location, perceived air pollution and health concerns, and air pollution information sources by study site.

WORKPLACE OF THE RESPONDENT ON A REGULAR BASIS	Site -1 (%)	Site- 2 (%)
Next to a busy road	65.0	45.00
Near a place where cooking takes place	56.00	43.58
In a dusty place	68.00	56.89
SOURCES OF AIR POLLUTION THAT ARE THOUGHT TO EXIST		
OUTDOOR AIR POLLUTION SOURCES		
Dust	46.00	34.00
Vehicles	70.45	28.12
Burning of Trash	24.89	34.56
INDOOR AIR POLLUTION SOURCES		
Cooking fuels	45.00	43.89
Cigarette Smoking	9.00	11.00
PERCEIVED HEALTH RISKS FROM AIR POLLUTION		
Cough/Cold	56.00	45.00
Difficulty breathing	67.00	35.00
Eye problem	85.00	18.00
Asthma	23.98	7.98
Headache	34.00	15.00
SOURCES OF INFORMATION ON AIR POLLUTION		
Radio	15.00	15.00
TV	45.00	45.00
Newspapers	05.00	05.00
No aware	35.00	35.00

Table 2 provides a summary of the findings with regards to the locations of workplaces, the health hazards, the sources of pollution, and the information on air pollution. The vast majority of people who participated in the surveys in both sets of locations said that the spot where they do their regular work is either very dusty or very close to a busy road. At both side maximum pollution was recorded as by vehicles due to road side distribution of the population. The second largest sources of

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pollution are due to dust and cooking at both sites. Indoor air pollution was recorded due to cooking fuels and burning of woods in Chulhas. The road side residents faces more than 70% eye irritation due to pollution and second largest population facing the difficulty in berating and cough cold due to allergens in the atmosphere. Abundant of the population from the residents of road side aware with the pollution approx 50% of the total awareness campaign from television.

CONCLUSION:

Our work may assist policymakers recognize the need for neighborhood education programmes on air pollution and health hazards. Risk communication tactics are needed to raise awareness of environmental issues like air pollution. This strategy improves the individual's comprehension of environmental policy measures, making them simpler to accept by community residents and improving personal responsiveness to pollution reduction. Community perceptions need more research to understand their influences [10].

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