A Study to Assess the Prevalence and Knowledge of Ill Effects of Air Pollution among Merchants at Angadipuram Panchayat with a View to Develop an Information Booklet

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Abstract

The present study was conducted to assess the prevalence and knowledge of ill effects of air pollution among merchants at Angadipuram panchayat with a view to develop an information booklet. Assess the prevalence and knowledge of ill effects of air pollution among merchants, find out the association between knowledge of ill effects of air pollution and selected demographic variables.Quantitative approach was adopted for this study. Descriptive survey design was applied to 100 samples of merchants from Angadipuram Panchayat was selected by using convenient sampling techniques. Tools used for data collection was structured knowledge questionnaire and checklist. An information booklet was provided to the samples after completing the test. Data were analyzed by using descriptive and inferential statistics. Findings of the study were among 100 samples, 78% of samples have average knowledge, 6% had good knowledge, and 16% have poor knowledge on ill effects of air pollution. There was no association between knowledge scores of merchants at Angadipuram panchayat with selected demographic variables such as age, gender, type of shop, year of experience and distance of shop from road. Prevalence rate of ill effects of air pollution among 79% of merchants have mild ill effects of air pollution, 18% have moderate level and only 3% have severe ill effects of air pollution.

"Healthy outside starts from the inside."

- Robert Urich

INTRODUCTION

Air Pollution, one of the major avoidable causes of diseases and death globally, has been an increasing issue worldwide. Though anyone can be exposed, people who live near road intersections or who direct traffic are particularly at risk. Proper awareness about the health hazards and the protective measures plays a crucial role in protecting oneself to great extent.

Although a number of physical activities (volcanoes, fire, etc.) may release different pollutants in the environment, anthropogenic activities are the major cause of environmental air pollution. Hazardous chemicals can escape to the environment by accident, but a number of air pollutants are released from

industrial facilities and other activities and may cause adverse effects on human health and the environment. By definition, an air pollutant is any substance which may harm humans, animals, vegetation or material. As far as humans are concerned an air pollutant may cause or contribute to an increase in mortality or serious illness or may pose a present or potential hazard to human health. The determination of whether or not a substance poses a health risk to humans is based on clinical, epidemiological, and/or animal studies which demonstrate that exposure to a substance is associated with health effects. In the context of human health, ''risk'' is the probability that a noxious health effects may occur.

In our day-to-day life we are exposed in different kinds of pollutants. Health impacts, as already described above, depend on the pollutant type, its concentration, length of exposure, to other coexisting pollutants and individual susceptibility. People living in cities are exposed to a greater extent, as a consequence of increased industrialization and demands for energy and motor vehicles. Occupational exposure is also an important factor that should be taken into consideration. During the last decade, health effects of air pollution are studied more in developed countries, while more and better environmental monitoring data are required in order to setup threshold levels. In addition to efforts should be intensified by taking the appropriate measures, in order to reduce the possibility of human pollutant exposure. [1]

NEED AND SIGNIFICANCE OF THE STUDY

Air Pollution, one of the major avoidable causes of diseases and death globally, has been an increasing issue worldwide. Though anyone can be exposed, people who live near road intersections or who direct traffic are particularly at risk. Proper awareness about the health hazards and the protective measures plays a crucial role in protecting oneself to great extent[2].

Ambient (outdoor) air pollution in both cities and rural areas was estimated to cause 4.2 million premature deaths worldwide per year in 2019; this mortality is due to exposure to fine particulate matter, which causes cardiovascular and respiratory disease, and cancers.

It is a major concern of new civilized world, which has a serious toxicological impact on human health and the environment. It has a number of different emission sources, but motor vehicles and industrial processes contribute the major part of air pollution. According to the World Health Organization, six major air pollutants include particle pollution, ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead. Long and short term exposure to air suspended toxicants has a different toxicological impact on human including respiratory and cardiovascular diseases, neuropsychiatric complications, the eyes irritation, skin diseases, and long-term chronic diseases such as cancer[3].Air pollution does not just affect the health of an individual or a community, but it also disrupts the functioning of a country. It reduces overall productivity and leads to a decrease in the supply of labor. It all translates into elevated expenditure in health care due to the rise in morbidities. Therefore, economic growth takes a blow reflected in the disability-adjusted life years (DALY) and mortalities.

India has an exponential trajectory for the economy and development. However, being a fast-growing developing economy comes with a cost as fluctuating air quality. According to the study, India suffered an estimated economic loss of 36.8 billion USD due to air pollution in 2019. This figure accounts for approximately 1.4% of the GDP (Gross domestic product) in the same year. The premature deaths due to air pollution caused a loss of 28.8 billion USD(U S Dollar). The morbidities accounted for losses worth 8 billion USD.

In 2019, air pollution was responsible for around 1.67 million deaths in India. This number is equivalent to 17.8% of the total deaths in the country. Out of those, 0.98 million deaths are attributable to ambient particulate pollution, while household pollution caused 0.61 million deaths.

Going by the figures, there has been a 64.2% decline in the death rate due to household air pollution between the years 1990 and 2019. India has been instrumental in taking state- and national-level initiatives to ameliorate household air pollution. The Indian government launched UnnatChulhaAbhiyan in June 2014, Pradhan Mantri Ujjwala Yojana in May 2016, and National Infrastructure Pipeline Project that has contributed to this decline. However, there is a 115.3% elevation in the death rate attributable to ambient particulate pollution and a 139.2% rise in those attributable to ambient ozone pollution in the same period. As per the findings, Lung disease were the top cause of deaths attributable to air pollution in India.

State wise statistics shows that the state-wise variation in economic loss ranged from 0.67% to 2.15% of the GDP. The low per-capita GDP states incurred the maximum loss. The worst-affected states were Uttar Pradesh, Bihar, Rajasthan, Madhya Pradesh, and Chhattisgarh. The national capital, Delhi, bore the highway per-capita economic loss due to air pollution, followed by its neighbour state of Haryana. Thus, we can infer that the impact of air pollution is more evident in north India. Dissecting the health aspect of deaths due to air pollution. The report also delves into the causes of death. Individually, chronic obstructive pulmonary disease (COPD) was the cause of 32.5% of the total deaths due to air pollution. Ischemic heart diseases (29.2%), followed by stroke (16.2%), were the other two most prominent causes of deaths due to air pollution[4].In 2018 ,A study was conducted by MSCAgricultural economic students, Vellayani Thiruvananthapuram.The effect of air pollution – 50-55% ,2010 – 59.34%, 2015 – 68.18%, 2018 – 70.89%. Hence they said that in Kerala as a whole, moderate air pollution existed during the years 2015 to 2018 [6].

PURPOSE OF THE STUDY
The study aim is to assess the knowledge regarding ill effects of air pollution among merchants.

STATEMENT OF THE PROBLEM
A descriptive study to assess the knowledge and prevalence of ill effects of air-pollution among merchants at Perinthalmanna municipality with a view to develop an information booklet.

OBJECTIVES OF THE STUDY
- Assess the knowledge regarding the ill effects of air pollution among merchants at Perinthalmanna muncipality.
- Find the association between knowledge regarding ill effects of air pollution and selected demographic variables.

OPERATIONAL DEFINITION
Assess
Systematic process of scoring of knowledge regarding ill effects of air pollution among merchants by using knowledge questionnaire.
Knowledge
Awareness of merchants regarding ill effects of air pollution. Which is elicited through knowledge

questionnaire.

Ill effects of air pollution

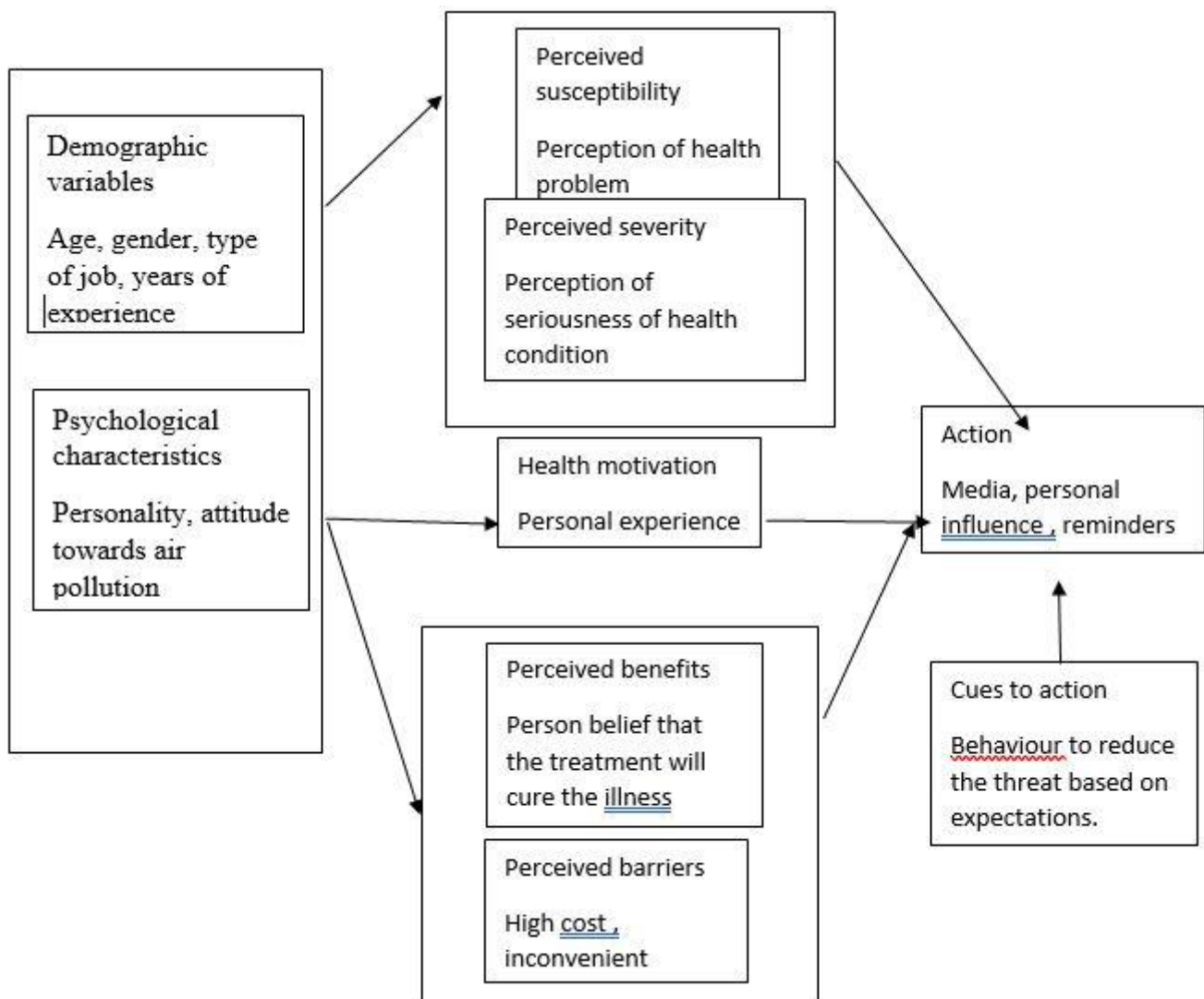Any harmful effects on health among merchants due to air pollution.

Merchants

Person who is doing business or trade.

Information booklet

It is a teaching material designed by investigators regarding ill effects of air pollution which includes causes, health effects, preventive measures of air pollution.

CONCEPTUAL FRAMEWORK
HEALTH BELIEF MODEL

ASSUMPTIONS

a. Merchants are knowledgeable regarding ill effects of air pollution.
b. Everyone is experienced with ill effects of air pollution to some extent.

HYPOTHESIS

H_1: There is a significant association between knowledge regarding ill effects of air pollution and select-

ed demographic variables.
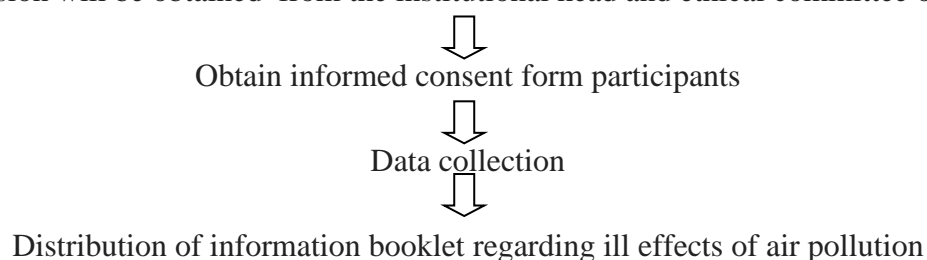
RESEARCH METHODOLOGY

- Research approach: Quantitative research approach.
- Research Design: Descriptive survey design.
- Demographic variables: Age, gender, education , type of shop, years of experience in business , distance of shop from road, respiratory issues.
- Settings Shops in Perinthalmanna municipality.
- Population Merchants
  - Target
  - Accessible
- Samples: Merchants at selected shops in Perinthalmanna municipality.
- Sample size: 100
- Sampling Technique: Convenient Sampling Technique.
- Inclusion criteria:
  - Merchants who are available at the time of data collection
  - Merchants who are willing to participate in the study
- Exclusion criteria
  - Merchants who are not able to comprehend Malayalam.
  - Merchants who are working in Ac shops.
  - Closed shops.
- Tools and Techniques
- Tool- 1
  - Part A -Demographic variables
  - Part B – Structured knowledge questionnaire regarding air pollution.
  - Part C – Check list on ill effects of air pollution.

PILOT STUDY

The Pilot study will be conducted in selected wards in Angadipuram panchayat.It is planned for 10% of the total sample size. The study will used convenient sampling technique who fulfills inclusion criteria for pilot study. Data will be collected using structured knowledge questionnaire.

PLAN FOR DATA COLLECTION

Formal permission will be obtained from the institutional head and ethical committee of the panchayat

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Obtain informed consent form participants

⇩

Data collection

⇩

Distribution of information booklet regarding ill effects of air pollution

PLAN FOR DATA ANALYSIS

The collected data will be analyzed by descriptive and inferential statistics.

MONTH	MAY 2023	JUNE 2023	JULY 2023	AUG 2023	SEPT 2023	OCT 2023	NOV 2023
Problem Statement	■						
Dissertation Proposal Presentation		■					
Preparation of Tool					■		
Tool Presentation And Validation					■		
Data Collection							■
Data Analysis							■
Main Project Submission							■

BUDGET PROPOSAL

	Quantity	Total cost
Stationary		1000/-
Printouts	200 Papers	2000/-
Travel Allowance		2000/-
Tool Kit	100+100+10	1000/-
Binding Research		
Total		

ETHICAL CONSIDERATIONS

Ethical clearance will be obtained from the institutional ethicalcommittee. An informed consent will be obtained from the merchantsprior to the data collection .

REFERENCE

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