

## Impact of Family Dependents on Asthma

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### Abstract

Asthma and Chronic Obstructive Pulmonary Disease (COPD) are increasing at a rapid pace in the last decade [1]. Research is going on, but the fact remains that prevalence is on the increasing trend, confirmed by CDC reports. A study conducted on Asthma patients related to socio-economic factor like family size or number of dependents in the family and found out that among asthmatic patient there are few factors which significantly affect asthmatic patients [2].

**Keywords:** Asthma; COPD; ANOVA; Linear Regression Model

### Introduction

Health is a state of complete physical, mental and social well-being and not merely absence of disease or infirmity as defined by WHO [3]. Health is a basic fundamental right of all citizens and health-promoting forms an intrinsic part of healthcare.

### Definition of asthma

"Asthma is a chronic lung disorder which is caused due to inflammation of the airways. The airways are filled with mucus, become narrower and blocking the airflow which then results in recurring periods of wheezing, short gasping breaths, chest tightness and coughing".

In recent decade there has been an increase in the burden of the disease among both children and adults. This is mainly attributed to increasing atmospheric pollution, the changing lifestyle, increasing industrialization and urbanization [4].

### Status of asthma in India

Around 15 million people in India are suffering from asthma but the management of the disease continues to remain unsatisfactory, according to a study Genetic factors interact with environmental factors such as pollution to trigger asthma. Some alarming statistics are one among every ten persons affected by asthma globally is an Indian, with the country having 20 million such patients and the number is on the rise. So, there is greater sense of awareness, preventive measures and proper detection and treatment is necessary. The statistics on asthma in India have been worrying for a while now [5-9].

### Materials and Methods

After an extensive review of literature the research problem/objective was identified as "impact of Family size/dependents on Asthma in Rajasthan. As the study is of descriptive in nature, detailed questionnaire was designed using as primary data. The limitation of the

study is the respondent should be an asthma patient diagnosed by chest physician/physician. To keep the homogeneity of data respondent age group was taken 18 - 60 years. The universe was taken as Rajasthan. Total number of patient completed study were 500. Statistical analysis done by using SPSS Version 22.0 with various Statistical Tools to examine the significance of various characteristics of study:

- Dependent variables- Age, Gender, Profession, income dependents and education.
- Independent variables- Related to prevalence, management, trigger and Asthma related factors.

**Hypothesis of the study**

- $H_0$ : Socio-demographic factor like dependents in the family do not have significant effect on attacks of Asthma.
- $H_1$ : Socio-demographic factors like dependents in the family have significant effect on attacks of Asthma.

**Analytical and statistical tools**

**Descriptive statistics:** Frequency, mean, mean percentage and Standard deviation are used to describe demographic variables. Inferential Statistics: ANOVA, Multiple linear regression to study the effect of Selected Socio Demographic factors and the awareness and prevention on Asthma.

	No. of Patients
0	106
1	41
10	1
12	1
2	103
3	106
4	61
5	42
6	20
7	14
8	5
Grand Total	500

*Table 1 and 2: Showing number of dependents, patients are having in the family.*

**Testing the equality of dependent-wise mean-score in 4 major subjects**

- H01: Dependent---Wise Mean Scores are equal in Asthma factor of Subjects.
- H02: Dependent---Wise Mean Scores are equal in Trigger factor of Subjects.
- H03: Dependent--Wise Mean Scores are equal in Prevalence factor of Subjects.
- H04: Dependent---Wise Mean Scores are equal in Life Management of Subjects.

		Sum of Squares	df	Mean Square	F	Sig.
AF_Sum	Between Groups	443.165	4	110.791	4.608	.001
	Within Groups	11902.083	495	24.045		
	Total	12345.248	499			
TF_Sum	Between Groups	54.750	4	13.687	3.510	.008
	Within Groups	1930.408	495	3.900		
	Total	1985.158	499			
Prvlce_Sum	Between Groups	296.151	4	74.038	4.993	.001
	Within Groups	7340.201	495	14.829		
	Total	7636.352	499			
MGT_Sum	Between Groups	2.619	4	.655	.146	.965
	Within Groups	2213.931	495	4.473		
	Total	2216.550	499			

**Table 3: ANOVA (Dependents).**

The p-value of F Test, in case of Asthma factor of Subjects, is 0.001(< 0.05). Therefore, the null hypothesis (H01) is to be rejected. Hence it can be concluded that there is impact of Dependent Factor on Asthma factor of subjects.

The p-value of F Test, in case of Trigger factor of Subjects, is 0.008(<0.05). Therefore, the null hypothesis (Ho1) is to be rejected. Hence it can be concluded that there is an impact of Dependents Factor on Trigger Factor of the disease on the subjects.

The p-value of F Test, in case of Prevalence of Subjects, is 0.001(<0.05). Therefore, the null hypothesis (Ho1) is to be rejected. Hence it can be concluded that there is an impact of dependents Factor on Prevalence of the disease on the subjects.

The p-value of F Test, in case of Life management of Subjects, is 0.965(>0.05). Therefore, the null hypothesis (Ho1) is to be rejected. Hence it can be concluded that there is an impact of dependents factor on Life management of subjects.

## Result and Conclusion

In descriptive table 1 and 2 showing how many family members are there in each asthma patients family and there percentage distribution among 500 asthma patients.

Table 3 is representing the significance of testing the equality of mean values of different sub-grouping of all the attributes on the basis of dependent present in the family of asthma patient. From table 3 it can be observed dependent mean values of three attributes (Prevalence of Asthma, Asthma Factor, Triggering Factor) has significant difference as  $p < 0.05$ . Whereas in case of Management factor as  $p > 0.05$  so it has no significance. For such testing, t-test has been used through Analysis of Variance (ANOVA) for all attributes.

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