CHAPTER - I

INTRODUCTION

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CHAPTER 1

INTRODUCTION

1.1 Preface:

In today’s contemporary world, one of the important branches in the studies of behavioral sciences is, Clinical Psychology. It investigates with multi-physics and multi-dimensional scenario of various behavioral issues, Adjustment problems and mental diseases. In addition to that, it observes physiological conditions and number of factors responsible for them. Moreover, it also concentrates on psycho-social conditions responsible for such problems. Modern sciences have acknowledged the quintessence of Clinical Psychology and they work in tandem nowadays in diagnosing and treating the various diseases and adjustment problems.

Psychosomatic problems are generated mainly due to physiological symptoms w.r.t insurmountable stress and other psycho-social conditions. The psychosomatic problems are related to the various systems of the body closely connected with the mental conditions of an individual viz. respiratory system, digestive system, blood circulatory system, excretory system and reproductive system etc. Related to the respiratory system of the body, one of the psychosomatic diseases caused is Asthma, which may be either Extrinsic or Intrinsic Asthma. It can be in the form of allergic, psychogenic, bronchial or in any other form.
Hence, Asthma is a psychosomatic disease counseled and cured not only by the physicians but also treated by psychiatrists, clinical psychologists, psychotherapists and yoga experts. It can be mentioned that the said disease Asthma does not create only physiological symptoms but also develop various behavioral problems viz. Adjustment, Depression and the lack of feeling of Well-Beingness. Moreover, it is a typical problem concerned with one’s sensitivity of respiratory system, resistance power, bio-rhythm, psycho-rhythm and Stress Tolerance Level (STL).

Therefore, in the present study, the researcher has undertaken the above said work to highlight various behavioral problems of an individual who is suffering from Asthma. It would be a kind of genuine contribution towards the development and progress of our nation in general and society in particular in context to the physiological and mental health as well as Well-Beingness of human life.

1.2 Brief History of the term Asthma:

Looking at the history of Asthma, it is difficult to predict the ingress of Asthma in the world. However, following description narrates its history:

History of Asthma traces back to the dawn of human civilization and has deeply entrenched into the human society. The word ‘Asthma’ was recognized in ancient Egypt and was officially named as a specific respiratory problem by Hippocrates in 400 BC, where the word “Asthma” or “asma” has been derived from the “azo” or “azein” meaning “breathing hard”. The modern name for respiratory distress has also been derived from Greek word “panting” (for ‘wind’ or ‘to blow’) (Murray & Nadel’s, 2010).
In 200 BC, Asthma was known to be partly related to emotions (Harver & Kotses, 2010). In 1886, F.H. Bosworth theorized a connection between Asthma and hay fever. During the 1930s-1950s, Asthma was known as one of the “holy seven” psychosomatic illnesses. Thus, by the 1980’s a clearer understanding of how allergen exposure triggered chemical mast cells (early reaction) and this resulted in turn leads to the recruitment of eosinophils, basophils and mononuclear cells (Austen, 1974 & Durham, 1984).

In early 1900’s, allergy immunotherapy was used to treat Asthma. Epinephrine was first referred to in the treatment of Asthma (Doig, 1905). According to Crompton (2006) and Mutius & Drazen (2012) oral corticosteroids began to be used for this condition while inhaled corticosteroids and selective short acting beta agonist came into wide use in 1960’s.

According to DSM-IV (1994), Asthma in individuals suffering from bronchospasm is a health risk which exacerbates symptoms of a general medical condition by eliciting stress related physiological responses. On the other hand, as per DSM-V (2013), Asthma in individuals reflects respiratory symptoms that are easily confused with a panic attack or indeed, which may precipitate to a panic attack.

1.3 Meaning and Definitions of the term Asthma:

In order to get the insight into the subject, the researcher has scanned through the details found during the review of literature and summarized various facts and figures of the psychosomatic disease called ‘Asthma’. Asthma is a Greek word which means ‘breathless’ or ‘to breathe with open mouth’.
Asthma (AZ-ma) is a chronic (long-term) disease that inflames and narrows the airways. Asthma causes recurrent periods of wheezing (a whistling sound when a person breathes), chest tightness, shortness of breath and coughing. The coughing often occurs at night or early in the morning.

The airways are tubes that carry air into and out of the lungs. People who are suffering from Asthma have inflamed airways. The inflammation makes the airways swollen and very sensitive. The airways tend to react strongly to certain inhaled substances. When there is reaction in the airways, there is tightening of muscles around them. This results into their narrowing, causing less air to flow into the lungs. The swelling also can worsen, making the airways even narrower.

This above mentioned chain reaction can result in Asthma symptoms. Symptoms can happen each time the airways are inflamed. Sometimes Asthma symptoms are mild and go away on their own or after minimal treatment with Asthma medicine. Other times, symptoms continue to get worse. When symptoms get more intense and/or severe, then person gets an Asthma attack. (National Heart, Lung and Blood Institute, NHLBI).

However, the scientific meaning of the term Asthma as a psychosomatic disease is presented in the following definitions:

1) “Asthma is a heterogeneous disease, usually characterized by chronic airway inflammation. It is defined by the history of respiratory symptoms such as wheeze, shortness of breath, chest tightness and cough that vary over time and in intensity,
together with variable expiratory airflow limitation” (Global Initiative for Asthma GINA, 2014).

2) “Asthma is a chronic, inflammatory disease of the airways caused by bronchial hyper responsiveness and variable airway obstruction is characterized” (Flexikon, 2014).

3) “Asthma is a chronic (long-lasting) inflammatory disease of the airways. In those susceptible to Asthma, this inflammation causes the airways to spasm and swell periodically so that the airways narrow. The individual then must wheeze or gasp for air. Obstruction to air flow either resolves spontaneously or responds to a wide range of treatments, but continuing inflammation makes the airways hyper-responsive to stimuli such as cold air, exercise, dust mites, pollutants in the air, and even stress and anxiety. In an attack, the lining of the passages swell causing the airways to narrow and reducing the flow of air in and out of the lungs” (The Medical Dictionary, 2013).

4) “Inflammatory lung disease characterized by (in most cases) reversible airway obstruction” (Farlex, 2012).

5) “Asthma is a chronic inflammatory disorder characterized by airway hyper-responsiveness to a variety of stimuli. It results from a complex interaction among inflammatory cells, mediators and airways” (Jindal, 2010).
6) “Asthma is a common long-term condition that can cause wheezing, chest tightness and breathlessness” (National Health Service (NHS), 2010).

7) “A respiratory disorder characterized by recurring episodes of paroxysmal dyspnea, wheezing on expiration and/or inspiration caused by constriction of the bronchi, coughing and viscous mucoid bronchial secretions. The episodes may be precipitated by inhalation of allergens or pollutants, infection, cold air, vigorous exercise or emotional stress. Treatment may include elimination of the causative agent, hyposensitization, aerosol or oral bronchodilators and short-or long-term use of corticosteroids. Sedatives and cough suppressants may be contraindicated. Also called Bronchial Asthma” (Elsevier, 2009).

8) “Asthma is an allergic, inflammatory, respiratory hypersensitivity triggered by inhalation of dusts, pollens, house-mite, faeces or cold air; characterized by airway narrowing and oedema and severe breathlessness” (Mooney, 2009).

9) “Asthma is characterized by recurrent attacks of paroxysmal dyspnea, with wheezing due to spasmodic contraction of the bronchi. It is usually either an allergic manifestation (allergic or extrinsic) or secondary to a chronic or recurrent condition (intrinsic)” (Gale Encyclopedia of Medicine, 2008).

10) “Asthma is a chronic inflammatory disorder of the airways in which many cells, in particular mast cells, eosinophils, and T lymphocytes, and their products (mediators, cytokines) play a role” (Breborowicz, 2006).
11) “A chronic inflammatory disorder of the airways in which many cells and cellular elements play a role. The chronic inflammation is associated with airway hyper-responsiveness that leads to recurrent episodes of wheezing, breathlessness, chest tightness and coughing particularly at night or in the early morning. These episodes are usually associated with widespread but variable airflow obstruction within the lung that is often reversible either spontaneously or with treatment” (Byrne, 2004).

12) “Bronchial Asthma is characterized by episodic acute limitation of airflow, reversing either spontaneously or in response to treatment” (Flenley, 2003).

13) “Asthma is a disease state characterized by airflow limitation that is not fully reversible. The airflow limitation is usually both progressive and associated with an abnormal inflammatory response of the lungs to noxious particles or gases” (Global Initiative for Chronic Obstructive Lung Disease, 2003).

14) “A self-reported history of intermittent wheezing is used, or history of wheezing plus bronchial hyperresponsiveness on testing is reported as Asthma” (Peat et al, 1993).

15) “Where allergic and/or childhood processes underlie susceptibility to irreversible airflow limitation it is known as Asthma” (Sluiter et al, 1991; Sparrow et al, 1988).
16) “Where pollutants lead to Chronic Obstructive Pulmonary Disease (COPD) while Asthma is related to allergic disease. Asthmatics do have an accelerated age-related decline in lung function, and so can develop chronic obstruction, but smoking related airways disease (chronic bronchitis and small airway disease) differs pathologically in several ways from Asthma” (Jeffery & Burrows 1991).

17) “Asthma is a clinical syndrome characterized by increased responsiveness of the tracheobronchial tree to a variety of stimuli. The major symptoms of Asthma are paroxysms of dyspnoea, wheezing, and cough, which may vary from mild and almost undetectable to severe and unremitting (Status Asthmaticus). The primary physiological manifestation of this hyperresponsiveness is variable airways obstruction. This can take the form of spontaneous fluctuations in the severity of obstruction, substantial improvements in the severity of obstruction following bronchodilators or corticosteroids, or increased obstruction caused by drugs or other stimuli” (American Thoracic Society, (ATS) 1987).

18) “Asthma is a disorder of the bronchial tree in which there is recurrent and at least partially reversible generalized obstruction to airflow” (Pearlman, 1984).

19) “Asthma is the hyperirritability of the airway to various stimuli and the extreme variability of the disorder” (Williams, 1982).

20) “A widespread narrowing of the bronchial airways, which changes in severity over short periods of time either spontaneously or under treatment, and is not due to cardiovascular disease is called Asthma” (Swineford, 1965).
21) “A symptom complex characterized by attacks of dyspnoea followed by wheezing and coughing, whose aetiology is hypersensitivity” (Taub, 1965).

22) “Bronchial Asthma means a transient and usually repeated attack of breathlessness caused by bronchial obstruction; due to spasm of the bronchial muscle, or to secretion into the bronchial lumen, or to oedema of the mucous membrane, or to any combination of these factors” (Herxheimer, 1952).

1.4 **Magnitude of the Problem:**

The magnitude of the problem can be articulated to get helpful hold and useful understanding of the present issue selected for the research. To get insight into the plight and predicament of the Asthmatic patients, four envelops of the geographical areas using part to whole approach have been identified viz. Ahmedabad city, Gujarat state, India and World.

As a parametric study is intended for a logical conclusion, two variables have been chosen on the basis of gender i.e. Male and Female. As the number of male and female asthmatic patients in the four geographical areas is site-specific, the magnitude of the problem becomes multi-fold and multi-dimensional. The details of the data compiled are mentioned in table 1.1:
### Table - 1.1

**Sex Wise Distribution of the Asthmatic Patients**

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Year</th>
<th>Geographical Area</th>
<th>Estimated no. of Male Asthmatic Individuals</th>
<th>Estimated no. of Female Asthmatic Individuals</th>
<th>Total No. of Asthmatic Individuals</th>
<th>Source of Published Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2011</td>
<td>Ahmedabad City</td>
<td>2,211</td>
<td>1,608</td>
<td>3,819</td>
<td>National Journal of Community Medicine, Vol-2, Issue 2: July-Sep 2011</td>
</tr>
<tr>
<td>3</td>
<td>2011</td>
<td>India</td>
<td>1,919</td>
<td>2,035</td>
<td>3,954</td>
<td>Ministry of Statistical Division, 2011</td>
</tr>
</tbody>
</table>

Per 1, 00,000 (1 lakh) Persons
1.5 Types and Symptoms of Asthma:

In any disease, there are some early indications in the form of typical body responses, which can be easily recognized by the wise old people in the families, for attempting first aid cure of that disease; to bring relief of the patients. These body reflexes are visible in the form of following typical symptoms.

The responses of the body to the external stimuli such as dirt, pollution, micro pollens in the atmosphere etc., are in the form of breathlessness, gasping, chest pain and even sometimes heaviness in the body of respondents.

These early indications mentioned above are the forerunning signals of an impending psychosomatic chronic illness or disease called “Asthma”. These body responses worldwide, in general and in local cities, in particular, are directly proportional to the air quality and pollution levels in the atmosphere. The health of the respondents is also directly proportional to the cleanliness of the surrounding of human beings.

Asthma is a chronic inflammatory lung (lower respiratory) disease that causes difficulty in breathing. It is characterized by inflammation of the bronchial tubes with increased production of sticky secretions inside the tubes when the airways tighten, inflame, or get filled with mucus.

Not every person down with above respiratory disorder has the same symptoms in the stereotyped way. The person may not have all of the symptoms mentioned below, or may have multi-variant symptoms at different times. Asthma signals may also vary from one
Asthma attack to the next. It may be mild during one and severe during another with periodic worsening from time to time.

In case of Bronchial Asthma which is a chronic, inflammatory disease of the respiratory tract, it is characterized by bronchial hyper reactivity and respiratory obstruction. It is a condition marked by recurrent attacks of Dyspnea, with airway inflammation and wheezing due to spasmodic constriction of the bronchi.

Bronchial Asthma may trigger due to the following:

- Smoking and secondhand smoke
- Infections such as colds, flu, or pneumonia
- Allergens such as food, pollen, mold, dust mites, and pet dander
- Exercise
- Air pollution and toxins
- Weather, especially extreme changes in temperature

In case of Psychogenic Asthma in which consistent coughing stemming from either emotional or mental stress on the mind of respondent, it becomes a physical illness due to persistent tickle in the throat or tic in a hysterical form with a passage of time.

As mentioned in the definition above, emotional factors can cause both the onset and the outburst of an Asthmatic crisis. The genesis of the psychogenic Asthma for wide gamut of diseases is influenced by the psychic factors. The reasons can be unearthed to realize that it has deep roots in the emotional conflict between the respondents and the persons surrounding them. The response to the emotional conflict differs from subject to subject which has following indications:
• The person reacts with anxiety, anguish and depression.

• Insomnia

• The normal heart rate of the respondent at rest in the upper chambers or lower chambers of the heart, or both, increases and fluctuates from the normal beat of 60-100 times/minute (Tachycardia).

• The ventilatory rate increases to more than 20 breaths /minute at rest and the respondent exhibits rapid breathing phenomenon (Tachypnea).

Irritants that trigger Psychogenic Asthma Attack, include:

• Smoke from tobacco, a fireplace, candles, incense, or fireworks
• Air pollution
• Cold air
• Exercise in cold air
• Strong chemical odors or fumes
• Perfumes, air fresheners, or other scented products
• Dusty rooms

1.5.1 Types of Asthma

Asthma can be classified into following main three types which are mentioned as follows:

1) **Extrinsic Asthma** (Allergic or Atopic Asthma) is mainly caused due to an allergy to antigens. In this case, the offending allergens are suspended in the air in the form of pollen, dust, smoke, automobile exhaust, or animal dander. The
development of this type of Asthma is basically related to a Hypersensitivity reaction to the Immune response.

Extrinsic Asthma is a state characterized by bronchoconstriction and shortness of breath. In which the airways become extra sensitive to certain allergens and once they get into the human body, the immune system overreacts. The muscles around the airways tighten and they become inflamed over time and are flooded with thick mucus. Allergens are not the only thing that can make allergic Asthma worse. Irritants may still trigger an Asthma attack, even though they don't cause an allergic reaction.

Extrinsic Asthma may be caused due to the following:

- Windblown pollen from trees, grasses, and weeds
- Mold spores and fragments
- Animal dander (from hair, skin, or feathers) and saliva
- Dust mite and cockroach feces

2) **Intrinsic Asthma** (Non-Allergic / Idiosyncratic Asthma) is mainly due to Hypersensitivity to the bacteria or, more commonly, viruses causing the infection. Attacks can also occur by infections, emotional factors, and exposure to nonspecific irritants.

3) **Mixed Asthma** is due to a combination of extrinsic and intrinsic factors.
After describing the three main types of Asthma, following are the eight basic types of Asthma –

a) **Cough-Induced Asthma**

It takes much effort to diagnose cough-induced Asthma. While diagnosing this type of Asthma, other possibilities viz. chronic bronchitis, post nasal drip due to hay fever or sinus disease have to be eliminated. Moreover, in this case the coughing can occur alone, without other Asthma-type symptoms being present. The cough can happen at any time of day or night. If it triggers during night time, it can disrupt sleep.

b) **Seasonal Asthma**

Seasonal Asthma is one where tree and grass pollens, molds spores or flowers releasing pollen can act as triggers. To add to this, some people find that their Asthma is worse in the spring, when there is an increase in flowering plants or in the late summer or early falls when ragweed and leaves from trees are more likely to cause problems.

c) **Aspirin Exacerbated Respiratory Disease (AERD)**

When the patient takes Aspirin AERD is stimulated. Patients in this type of Asthma may have nasal polyps, rhinitis, sneezing, runny nose and a history of Aspirin sensitivity. When the patients are administered Aspirin, they develop sneezing and a stuffy nose, which leads to wheezing and difficulty in breathing.
d) Exercise Induced Asthma (EIA) / Bronchoconstriction

EIA simply refers to Asthma symptoms that are triggered by exercise or physical activity. These symptoms are usually noticed during or shortly after exercise. Exercising in the winter seems to be particularly bad for patients with this type of Asthma. This is triggered when there is cold air and there are sudden changes in the temperature of the air, which one breathes.

e) Cough Variant Asthma

Cough variant Asthma is induced in the patients by a dry hacking cough. It can occur while awake or asleep and can affect both adults and children.

f) Occupational Asthma

Occupational Asthma is triggered when something on the job sets off an Asthma attack particularly from smoke or inhaled irritants like chlorine. It’s not related to an allergy; the irritant is inhaled and it triggers an attack. For Example - In occupations that deal with chemicals like paint or lab animals’ viz. rats or mice, patients may also be allergic to their trigger.

g) Nocturnal Asthma

A patient can suffer from Nocturnal Asthma with any type of Asthma. In this type of Asthma the symptoms may seem to get worse in the middle of the night, typically between 2 and 4 AM. Things that can cause Asthma symptoms to get worse
at night may include sinus infections or postnasal drip caused by allergens like dust mites or pet dander.

h) Steroid-Resistant Asthma (Severe Asthma)

Important role is played by airway inflammation and immune activation in Steroid-Resistant Asthma. In this persistent immune activation is associated with high levels of the immune system molecules in the airways of the patients.

1.5.2 Symptoms of Asthma

General symptoms observed in various forms of Asthma are as under:

- Respiratory distress with expiratory stridor (Latin word – “creaking or grating noise”, a high-pitched breath sound resulting from turbulent air flow in the larynx or lower in the bronchial tree which is a physical sign which is caused by a narrowed or obstructed airway)
- Wheezing – a squeaky or whistling sound in the chest when a person breathes, especially while exhaling
- Chest tightness, pain, or pressure
- Hyperinflation of the chest
- Tachypnea, Tachycardia
- Dyspnea (shortness of breath especially when exhaling)
- Pulsus paradoxus - Reduction in pulse volume during inspiration
- Chronic Inflammation
- Recurrent episodes of airflow limitations
- An increased airway responsiveness (hyper responsiveness)
- Sputum production following acute exacerbation
- Pallor or Cyanosis (e.g. Bluish lips)
- Uberblahter thorax (torso related)
- Exhaustion
- Restlessness
- Difficulties in walking, frequent pausing to catch the breath when talking
- Pronounced cough, especially at night, with exercise, or when laughing
- Rapid shallow respirations
- Diminished breath sounds
- Generalized retractions
- While exercising feeling energy-less
- Decreases or changes in lung function as measured on a peak flow meter
- Signs of a cold or allergies (sneezing, runny nose, cough, nasal congestion, sore throat, and headache)
- Trouble in sleeping

1.6 **Onset of Asthma:**

Onset of a disease is gradually setting of symptoms in persons, which eliminate the ease in their lives and bring discomfort, pain, irritation and utter dis-satisfaction. This process of gradual tightening and increase in the boundary conditions of their easy and carefree life sucks the taste from their lives and makes it dull, drab and totally insipid in time domain.

Similarly, during the onset of Asthma, the life of the affected persons is totally ruined. In this condition, the chest tightness and difficulty in breathing at the beginning gradually
compounds to breathlessness, gasping and increase in heart rate and turbulent breath resulting in eventual wheezing.

The onset of Asthma may take place due to one or more of the following reasons:

1) Onset of Asthma at Birth

There is always a possibility that the baby in the mother’s womb (pre-natal) stage or immediately after the birth (post-natal stage) picks up the difficulties in taking the breath and starts sending distress signals which needs immediate medical attention. In such cases, in the pre-natal stage the mother may be put on oxygen and in the post-natal stage, the child may be kept in the incubator with ICU like infrastructure to reduce the Asthma inducing factors in the surroundings.

2) Onset of Asthma in Childhood

Asthma that begins during childhood is called Child-Onset Asthma. When the child gets sensitized to common allergens in the environment, he/she picks up breathing irregularities which per se is due to genetic reasons. In this case, the child gets atopic and is confined in a genetically determined state of hypersensitivity to micro pollens and micron sized particulates in the air.

3) Onset of Asthma in Adulthood

Adult-onset Asthma may be picked up by an individual after reaching 20 years of age. It affects women more than men, and it is quite less common than child-onset Asthma. It can also be triggered by some allergic material or an allergy. It is estimated that up to perhaps 50% of adult-onset Asthma is linked to allergies. However, a
substantial proportion of this type of Asthma does not seem to be triggered by exposure to allergen(s).

1.7 Etiology of Asthma

Heredity, allergens and environmental factors play a vital role in the onset of the disease Asthma. Number of responsible factors for the onset of such disease have been explored and yet many are remained to be explored. As it is accepted that Asthma is a psychosomatic disease, obviously, physiological and psychological factors are responsible for the development of the said disease. However, causes and responsible factors for the onset of Asthma are presented below:

1) Heredity

In blood relations, children may pick up the disease from the parents, grandparents, uncles and aunts due to genetic reasons. In such cases the individuals pick up the disorder at a specific time in their life as per the coded signals on their Deoxyribonucleic Acid (DNA). The disease aggravates if proper medical attention is not paid. The symptoms indicated by the body have to be taken seriously as body has intelligent system to reflect the responses arising due to different situations in life.

As per the clinical theory of heredity, Asthma or any disease directly does not come to generation but the tendency for the development of disease passes to next generations. Therefore, in the cases of the children of Asthmatic parents, there are more chances of developing Asthma in comparison to the children of the non-asthmatic parents.
The children having tendency of Asthma through heredity and if they are brought up in undesirable or uncomfortable climate and environment, the tendency transfers into disease and thus an individual suffers from the particular disease. For Example – If the children having the tendency of Asthma and grow in the climate which is full of humidity and polluted environment definitely, it develops Asthma in the children.

Thus, tendency received from both heredity and uncomfortable environment, together play an important role in the development of any disease and especially Asthma.

2) Allergens from the Environment

Various allergens are responsible for causing Asthma. Of course there are varieties of allergens which influence every individual specifically in their own way. It should be noticed that one particular allergen may be the cause of Asthma for the particular individual but it may not be so for another one. A particular person is always allergen specific in the exposed environment.

However, various allergens responsible for causing Asthma are as under:

- Pollens - from grass & trees
- Molds - of some fungi
- House dust mites
- Dander (or flakes) - from the skin, hair or feathers of warm - blooded pets (dogs, cats, birds, rodents, etc)
- Insect’s viz. cockroach
Food allergens rarely cause an Asthma attack, though some of foodstuffs may cause allergic indications in some people (sulfites and preservatives added to some types of foods and beverages, including shrimp, dried fruit, processed potatoes, beer and wine).

Various smell and smoke related allergies (irritants) which cause Asthma are –

- Strong odors
- Perfumes and sprays
- Cosmetics
- Paints
- Cooking (especially with spices)
- Tobacco smoke
- Wood smoke
- Petrol / Kerosene and some other chemicals
- Incense stick
- Dust
- Air pollutants like toxic gases from automobiles and factories

3) Pollution in Environment

The smoke and smog (smoke+fog) released by the industry increases the level of pollutants and suspended particles in the atmosphere. The pollution also increases by the use of petrol and diesel burnt by the automobiles. Urban population near thr cities increases the pollution limit in Parts Per Million (PPM) and makes the life of the individuals uncomfortable.
The cutting of the trees due to deforestation creates havoc by bringing the drought situation and increasing the pollution levels in the air. When the carbon monoxide level shoots up in the atmosphere and there is total loss of visibility in the air it drastically affects the health of the individual.

4) **Effect of Various types of Ambience (surroundings)**

The humidity in the atmosphere brings a plethora (excess) of problems for people suffering from Asthma. Almost everyone has been negatively affected in some way or the other. When the humidity and the heat are high in the atmosphere, breathing becomes a difficult task for people with respiratory disorders. It is an agony for a patient to breathe in a thick moisture laden air which is full of dampness and smog.

High humidity is also a cause of increased complaints of shortness of breath. There are quite a few explanations for this phenomenon. First, as humidity increases, the density of the air increases. More dense air creates more resistance to airflow in the airway resulting in an increased work of breathing (i.e., more shortness of breath). Another reason is that as humidity increases, the prevalence of many known airborne allergens increases. For Example - Dust mites and molds both increase in high humid atmosphere.

Air conditioners and coolers which are out of order or malfunctioning also add to the woes (anguish), irritation and sensitivities of the Asthamic individuals. Excess moisture in the air can really induce difficulty in breathing. Instead of filtering out the pollutants, an air conditioner will spread them around. Dust and dirt buildup on the air conditioner even reduces its ability to remove humidity and cool down the surroundings.
Vacuum cleaners release bacteria, filth, and allergens back into the air and because of that they release and re-suspend dust leading to increased exposure in the nearby areas. These types of devices when used for wall-hangings, carpets, upholstery and curtains in a confined room with dampness prevailing all around can harbor and spread microorganisms which can sensitize the Asthmatic individuals.

Persons suffering from Asthma also do not like to reside in coastal regions as there is a typical type of sultry environment which creates difficulties like chocked nose and heavy chest. Most likely the problem is related to the downdrafts (breeze) of cold air that occur with the storms in the coastal regions.

Health related grievances and breathing related respiratory problems also may crop up nowadays, in the old people when the fine sand and fly ash dust is sprinkled on newly constructed roads by the Corporation workers of the civic bodies.

Some of the other triggers of Asthma (individual specific) are mentioned below –

- Molds harbored in vacuum cleaners
- Air conditioners
- Humidifiers
- Coolers
- Heaters
- Algae in sea shores

5) Psychological Factors

There are various psychic conditions of an individual which contribute in the development of the Asthma as a psychosomatic disease. Such factors have been developed in the modern life which have created remarkable influence on the mental
health of the person. Beyond psychic conditions of an individual there are number of psychological factors responsible for the onset of Asthma viz. parental style of bringing up the children, parental attitude towards life, personality traits of the parents and even the lifestyle of the parents and the whole family.

Beyond biological and sociological conditions, psychological factors also play very important role in the development of psychosomatic problem like Asthma which are mentioned as follows:

**a) Parental Style of bringing up Children**

There are some parents who show over-protective and over-indulgent behavior towards their children. Such parents make their children dependent, over-sensitive & inadequate and this leads them to develop negative personality traits in their life. This affects self-confidence of the children and their feeling of inadequacy widens in their lives. As a result, children become dependent, develop negative attitude and move far from reality because their tolerance level reduces considerably. Children in this atmosphere, grow up with no courage to face the struggle of life and expect childhood like parental help from others all the time.

There are some parents who behave partially, mostly avoid and at times neglect their children. This kind of behavior to some extent creates a negative psychic condition in the children and makes them feel isolated and attention seeking. But at the whole, if they don’t get proper attention; they develop wrong notions, fantasies and negative emotions, ultimately wanting an escape from reality. Due to this type of behavior, the children start losing their self-belief, confidence and security. They start initiating gestures, as if they are depressed, confound and they burst into tears. By
showcasing above mentioned symptoms of Asthma, they find defense from stress and try to get relaxation as a relief mechanism from the stress of the real life. As a result, they feel so much disturbed, obstructed and hampered that they start presenting the symptoms of Asthma.

b) Parental Attitude

There are some parents who bear adverse attitude in their personality. They are over-caring and over-sensitive towards their children, they have faulty perception and negative frame of reference towards bringing up their children. Sometimes, they are observed self-centered and even un-socialized as well as they possess negative patterns of thinking towards the whole issue of bringing up their offspring. This leads them towards prejudices and attitudes which makes them either over-sensitive or over-protective towards the children. Sometimes, it also develops partiality, avoidance, negligence towards their children as negative impact of their attitudes. Such positive and negative attitudes together hamper the healthy pattern of bringing up the children.

The situations of the modern life-style viz. busy schedule, lack of time, competitiveness in the life and materialistic approach are also responsible for the development of parental ill-attitudes. But, it creates serious and harmful consequences in the personality of their children. Such children, when they grow up and start facing reality they cannot prove themselves enough competent in the struggle of life. Parental attitude have made them dependent, inadequate, self-centered, isolated, un-socialized and always with unrealistic expectations from the others. When they are not getting proper response from others, they are frustrated and find deep conflicts in their living. They cannot help themselves in maintaining their psychological rhythm
and as a part of that they try to escape from the reality of life. They want to be free from the mental conflict and need immediate solutions of all the problems.

In view of this, sometimes they express their frustration and conflicts by presenting the symptoms of Asthma and they also relate these symptoms with the struggle of life. Thus, the psychosomatic reactions help the person in getting free from duties and responsibilities, thereby getting relief from mental struggle. Thus, in the initial stage the symptoms of Asthma develop as a defense mechanism but slowly and gradually they become the part of their personality and thus Psychogenic Asthma takes place in their life.

c) Emotional Aspect

Emotional aspect of personality is also playing an important role in the development of psychosomatic problems. One’s control on emotions and healthy way of expressing emotions are the part of emotional maturity. One must have emotional steadiness for the better living in the various fields of life.

Over-sensitivity, lack of control on emotions, undesirable patterns of expressing emotions and unsteadiness show emotional immaturity of an individual. Such types of people, have very low Stress Tolerance Level (STL) and harmonious patterns of Adjustment. They cannot enjoy the various situations of life and they cannot maintain good interpersonal relationship. This negative emotional tendency increases stress level and make the Depression very acute. This state of mind makes the person very weak and intolerable for the others. Every time, they fell like escaping from the reality and want others attention constantly.
In fact, the above mentioned situation cannot take place in reality and therefore, the individuals develop certain symptoms of a particular physical disease which help them in getting attention of others. However, the symptoms of Asthma develop as a result of emotional immaturity and dissonant personality.

d) Self-Concept of the Person

Self-concept means one’s understanding regarding potentials and limitations of the self. It also manifests how we see, observe and interpret ourselves. If the individuals self-concept is within the framework of reality, then it is labeled a realistic self-concept. This positive self-concept leads to enhanced tolerance, healthier Adjustment and improved Well-Being of the individual along with augmented self-confidence. If the person’s self-concept is over or under estimated it is coined as unrealistic self-concept. This negative self-concept hampers the individual’s STL, Adjustment pattern and psychic condition along with depleted self-esteem. The self-concept develops through childhood experiences, parental treatment, family experiences and surrounding of the environment. Social settings and bringing up style of children are also additional factors responsible for self-concept development.

There are some parameters related to self-concept, which bring balance or imbalance in the life of the individuals. When the understanding of the self is perfect or realistic, individuals have a positive balance in their life. They grow up and become individuals who lead a normal life and their personality fortifies to face the challenges of society. On the contrary, when the understanding of the self is imperfect or unrealistic, the individuals fall prey to the societal stress, peer pressure and as a result develop breathing perturbations gradually compounding into respiratory disorder Asthma. Due to this they face emotional imbalance in their life, experience low levels
of Adjustment, have decreased tolerance level and avoid struggle in life. As they cannot face reality, they all the time shirk (avoid) responsibilities in their lives. These are the type of individuals who are unable to develop harmony in life. Overall, it can be said that, due to effect of increased conflict and struggle, individuals develop symptoms of Asthma, because of the poor understanding of self-concept in life.

e) **Anxiety and Depression Level**

Severe anxiety and elevated Depression levels of an individual are responsible for feeling of severe mood variations. Due to these conditions, individuals consider themselves guilty and enter into blame game which ultimately become the prime factors responsible for their defeat in life. Eventually, this leads to negative personality traits, low tolerance level and high struggle in life. Moreover, depressive tendency leads not only to, increased physical struggle but also to enhanced mental conflict with the passage of time and paves the way in the direction of picking up Asthma.

People having fear of forthcoming events and associated Depression mainly suffer from personality imbalance. Mood variation basically comes from behavioral psychology and it is basically learnt mainly from behavior of family and environment. Sometimes, individuals show Asthmatic symptoms as a defense mechanism of body from the real life situations. From wrong learning and incorrect treatment of parents and environment, frail, sensitive and weak individuals cannot face reality and reflect asthmatic behavior.

Due to their anxiety and related psychic conditions, affected personality, reduction in self-confidence, lack of adequacy and absence of independent way of
living ultimately, increases their level of Depression. It also reflects the resistance level of the person and disturbs bio and psycho rhythm of an individual and thus the person becomes the victim of various psychosomatic reactions. The symptoms of Asthma, thus, take place from anxiety and acute Depression.

f) Interpersonal Relationship

If the interpersonal relationship is not adequate it leads to problems of anxiety, Depression, increased guilt level and mental freedom presenting Asthma. Individuals who are given over-protection by parents and are neglected by the social circle are observed as suffering from ill health and are poor in social interactions. In such cases, frustrations and conflict also become acute. When parents are not having proper role in bringing up of children, they suffer from complex interpersonal problems and their tolerance level depletes. Regarding this complex illness, multidimensional systemic vision has been brought forward by Gregerson (2000); Janaski et al (1994) and Dirks et al (1978).

If the parents do not properly expose their children to socialization, i.e. they can’t open up in public and have interaction difficulties with other unknown people. This effects into the situations where the children land up in hesitation, trembling of hands, fear speaking in public, less interaction with strangers, loss of words (utterance problems and fumbling difficulties), perspiration etc. gradually leading to Asthma.

If interpersonal relationship between the parents and children is good, it leads to social competence further to getting success in every walk of life. With increased social interaction children pick up high resistance level and are able to muster courage to face the struggles of life, thus making them capable to avoid respiratory disorders.
g) Modern Life Style

Modern lifestyle means rapid changes, lot of competition, crisis of time/money, struggle in life and continuous effort for achieving goals of life. Everything becomes complex and changes rapidly due to materialism, industrialization and urbanization. This mechanical lifestyle is like running along the circumference of a circle with no end point. Other factors related to this issue are lifestyle far from nature, maximum use of high technology, lack of peace of mind and no leisure time to relax. This life with no meaning eventually develops frustration and number of physical problems.

On the whole, when there is no purpose of life left, the individual in the present scenario, is under utter confusion which leads to breathing imbalance and perspiration. This is followed by crying and shivering which become causes of the psychological factors leading to physiological symptoms of Asthma. As the body and emotional levels experience an imbalance and are not able to work together, the individuals develop psychic conditions leading to physiological symptoms of Asthma.

Parent’s faulty/wrong habits such as smoking, drinking and chewing ultimately leads the children directly or indirectly towards behavioral problems which may result into the disease called Asthma.

1.8 Effects and Risk Factors of Asthma

Since decades there is lot of evidence regarding the damages caused due to Asthma to the human body. The environmental health is the talk of the town and the air quality indoor and outdoor play a vital role in the respiratory health of the individuals. Indoor air quality is an important indicator of individual’s environmental health. When people play indoor games,
they spend approximately 80-90% of their effective time indoors (Patrick, 2013). Exposure to indoor contaminants including second-hand smoke (SHS – which contains 250 toxic chemicals which are carcinogenic), volatile organic compounds may result in adverse health impacts (AAP, 2003).

Hence, the consequences of Asthma are divided into two parts as (1) Physical Health related Effects (2) Psycho - Social Effects

1.8.1 Physical Health related Effects

Having Asthma can affect a person in many ways. Physical effects can range from the somewhat annoying (an occasional cough) all the way to life-threatening (not being able to breathe). The frequency and seriousness of Asthma symptoms are dependent on how well a person’s Asthma is controlled (with medicines and other measures) as well as how severe that individual's Asthma was to begin with.

There are some cases where Asthma symptoms are worsening. They may have noticeable coughing and wheezing, but these are not always the first indications of breathing distress. Moreover, sometimes breathing related issues crop up in old age patients who have a hump back and due to increase in the curve angle (kyphosis) of their backbone, their ribcage pressurizes the duodenum area of the stomach.

Some possible indications of the beginning of an Asthma episode include:

- Unusual tiredness or restlessness
- Trouble sitting still
- Crankiness
• Looking worried or scared
• Pale, Sweaty Skin
• Fast breathing
• Slouching over

Various psycho-social effects are as under –

1.8.2 Psycho-Social Effects

The Asthmatic respondent’s undergo typical circumstances which have direct bearing on their psycho-social behavior, which lead to personality problems. They also suffer from differential anxiety levels and integral emotional arousals which eventually culminate into harsh harmonious relationships with the surrounding people. It eventually, confines them and affects their social interaction.

Many a times, the Asthamics are administered with strong injections and drugs during long course of treatment, which gradually affects various parts of the body including brain resulting into typical behavioral problems.

As a matter of fact, the drugs taken to cure Asthma affect the brain and results in psychosomatic changes. The drugs and the antibiotics consumed by the asthamic patients in the long run increases their irritation scale and also lead to typical mood swings due to low energy levels. This is reflected in the form of worrisome approach on the faces of respondents. Their physical look reflects apathetic outlook when they withdraw themselves from the fun, frolic and enjoyment of life due to total isolation from the social life. They lack
patience to rebound back to active life as it appears to them that there is no beacon of light at the end of tunnel.

For the respondents, difficulty in breathing is leading to the feeling and sensation of ‘air hunger’, which is terribly upsetting. It is common for people with Asthma to experience fear that they are going to live no more and die instantly during an unpredictable Asthma episode. This apprehension of death looming large can become more general and continue when the person is not having any active symptoms. The psycho-social impact of this is that they are always reeling under the feeling that another Asthma episode could start at any time, which may cause them to feel nervous and anxious constantly.

Hence, as it affects Adjustment, Depression, feeling of Well-Beingness of the respondents, therefore, it has become a motivation to select and study this problem thoroughly to develop insight into these psycho-social issues.

Each person's Asthma experience is unique, but the feelings like fear and anxiety, hyper vigilance, loss of control, denial, anger, guilt, embarrassment and confusion compound the psycho-social impact of Asthma.

The psycho-social impact that Asthma has on any individual person is determined by many factors, such as:

- Asthma severity
- Limitation of activities due to Asthma
- Social and family support available
- Age at which Asthma symptoms started
- Level of Asthma-related skills and knowledge
- Overall personality and coping style

Further to that, the risk factors affecting Asthma are mentioned below:

### 1.8.3 Risk Factors of Asthma

Burke et al., (2003) emphasize that Asthma comprises a range of heterogeneous phenotypes that differ in presentation and pathophysiology. The risk factors for each recognized phenotype of Asthma are mentioned below:

- Genetic
- Environmental
- Host factors

According to Walker et al., (2003) and Maddox and Schwartz (2002) explain that mainly current understanding of the determinants of Asthma have largely been informed through the role of surrounding atmosphere, such as exposure to aeroallergens, indoor and outdoor air pollution, endotoxin, smoking and viral infections. Moreover, Kleeberger & Peden (2005) and Weiss (1999) explained that this knowledge base has been supplemented by considering genetic modifiers of environmental exposures on Asthma expression.

The risk factors for Asthma include those which are modifiable and non-modifiable. These are explained below:
Modifiable risk factors include outdoor air pollution, urbanization, obesity, extreme emotional expression, occupation and exposure to risk factors in childhood.

Non-modifiable risk factors include family history, genetic factors and prenatal influences.

The following table - 1.2 indicates the risk factors for Asthma in India:
**Table - 1.2**

**Risk factors for Asthma in India**

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Operation Research (OR) (95% Cumulative Index - CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LOCATION</strong></td>
<td></td>
</tr>
<tr>
<td>Chandigarh</td>
<td>1.000</td>
</tr>
<tr>
<td>Delhi</td>
<td>1.026 (0.870 - 1.211)</td>
</tr>
<tr>
<td>Kanpur</td>
<td>1.153 (0.978 - 1.359)</td>
</tr>
<tr>
<td>Bangalore</td>
<td>1.707 (1.483 - 1.965)</td>
</tr>
<tr>
<td><strong>GENDER</strong></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>1.000</td>
</tr>
<tr>
<td>Female</td>
<td>1.435 (1.230 - 1.675)</td>
</tr>
<tr>
<td><strong>AGE</strong></td>
<td></td>
</tr>
<tr>
<td>15 - 24 years</td>
<td>1.000</td>
</tr>
<tr>
<td>25 - 34 years</td>
<td>1.618 (1.289 - 2.031)</td>
</tr>
<tr>
<td>35 - 44 years</td>
<td>2.819 (2.273 - 3.496)</td>
</tr>
<tr>
<td>45 - 54 years</td>
<td>4.838 (3.920 - 5.973)</td>
</tr>
<tr>
<td>55 - 64 years</td>
<td>7.504 (6.037 - 9.328)</td>
</tr>
<tr>
<td>65 - 74 years</td>
<td>11.332 (9.043 - 14.202)</td>
</tr>
<tr>
<td>&gt; = 75 years</td>
<td>13.472 (10.247 - 17.711)</td>
</tr>
<tr>
<td><strong>USUAL RESIDENCE</strong></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>1.000</td>
</tr>
<tr>
<td>Urban</td>
<td>1.342 (1.190 - 1.514)</td>
</tr>
<tr>
<td>Mixed</td>
<td>1.282 (0.928 - 1.771)</td>
</tr>
<tr>
<td><strong>SOCIO - ECONOMIC STATUS</strong></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>1.000</td>
</tr>
<tr>
<td>Middle</td>
<td>0.831 (0.730 - 0.944)</td>
</tr>
<tr>
<td>High</td>
<td>0.717 (0.582 - 0.883)</td>
</tr>
<tr>
<td><strong>ATOPY</strong></td>
<td></td>
</tr>
<tr>
<td>History not suggestive of Atopy</td>
<td>1.000</td>
</tr>
<tr>
<td>History suggestive of Atopy</td>
<td>12.304 (11.057 – 13.691)</td>
</tr>
<tr>
<td><strong>FAMILY HISTORY OF ASThma</strong></td>
<td></td>
</tr>
<tr>
<td>No first degree relative with Asthma</td>
<td>1.000</td>
</tr>
<tr>
<td>First degree relative with Asthma</td>
<td>6.104 (5.365 - 6.946)</td>
</tr>
<tr>
<td><strong>USUAL SMOKING HABIT</strong></td>
<td></td>
</tr>
<tr>
<td>Non - Smoker</td>
<td>1.000</td>
</tr>
<tr>
<td>Cigarette Smoker</td>
<td>1.534 (1.231 - 1.910)</td>
</tr>
<tr>
<td>Bidi Smoker</td>
<td>1.599 (1.357 - 1.883)</td>
</tr>
<tr>
<td>Smoker of Hookah/Other Products</td>
<td>2.227 (1.481 - 3.350)</td>
</tr>
</tbody>
</table>

Source : Adapted from Aggarwal et al (2006)
1.9 Asthma – A Psychological Point of View

The frontiers of psychological study in the world as on today have open up new vistas which throw proper light on the various psychological aspects of Asthma. When we touch upon the subject of psychological domain; it is found that they are one of the prime movers and mind engines which govern the behavior of the individuals. A few of the psychological aspects which strengthen the above point are enumerated below:

- Depression
- Stress
- Anxiety
- Sadness
- Environmental Irritants or Allergens
- Exercise
- Infection

Asthma and these psychological states and traits may mutually influence each other through direct psycho-physiological intervention. In these psychological aspects some of the other features which are inter-dependent and inter-disciplinary like non-attachment to medical regimen, exposure to Asthma triggers and inaccuracy of Asthma symptoms also affect the typical response of the individual.

When it is clear to the individual after the medical check-up that he/she is suffering from a respiratory disorder called Asthma, at the outset it is taken as an experience of a nightmare (deadly dream in the night). They virtually don’t relish and believe their ears and shrug their shoulders in despair. The very feeling and thinking that people will now start to
boycott them kills their will to enjoy every moment and they get despondent. When the person gets miserable due to these thoughts, his/her metabolism and catabolism gets affected due to antibodies produced in the system. As the immune system tries to counteract the disease, a quantum change is reflected in the person’s approach from the psychological point of view and significant changes are observed in the behavioral patterns and their social response.

These changes in the behavioral patterns lead to Depression, aggression and feeling of Well-Beingness is lost. As the body gets affected, the mind of the individual also reels down under the state of emotional distress as they are interconnected and inter-dependent. The role of body has deep inner roots with mind which affects their functioning of inter woven cords. This consistent and constant struggle of asthmatic person creates enormous psychological issues viz maladjustment, conflicts and crises eventually leading to meaninglessness in life.

On the other hand, stress from fear, anger, work, or home related problems can have a significant impact on worsening Asthma symptoms. In some rare situations, psychological illness can somehow be an underlying cause or trigger for recurrent Asthma symptoms.

Psychological conditions play a central role in such psychosomatic Asthma. Stress and psychopathology, as with other physical stimuli, are considered as possible triggers for Asthma.
1.10 Psychological Theories of Asthma

In the literature wide gamut of psychological theories are existing which describe the genesis, prevention and cure of Asthma as a disease. Some of the theories are enumerated below:

1) Panic-fear Research in Asthma and the Nuclear Conflict Theory of Asthma: Similarities, Difficulties and Clinical Implications

This theory is developed by Jerald et al; (1979) British Journal of Medical Psychology. In which the author describes Asthma as a heterogeneous psychosomatic disease which is not necessarily mediated by allergy or regain but there is another variable called hyperactivity of the lung. These two basic factors which exist in varying degrees in each patient have further been graphically analyzed by Minden and Farr (1969). The subjective symptom of Asthmatic attack and the ways they are translated into behavioral patterns during illness are studied by Kinsman et al; (1973) by developing a Asthma Symptom Checklist (ASC) which define five symptom clusters viz. panic-fear, irritability, fatigue, hyperventilation and the symptoms of airway obstruction.

On the basis of ASC panic-fear symptom concept, empirically Dirks et al; (1977) developed a 15-item Minnesota Multiphasic Personality Inventory (MMPI) panic-fear scale to measure a stable character trait unaffected by the severity or duration of the Asthma or by intervening medical treatment of Asthma.
2) Theories and Principles of Health Education Applied to Asthma

This theory is developed by Lawrence et al; (1994) British Columbia Ministry of Health. In this the author has outlined a decision-making process for understanding the stages involved in a decision to engage in Asthma self-management. The model identifies motivational or predisposing factors that trigger a decision to participate in self-management and subsequent enabling and reinforcing factors that reward or support it (Alexander, 1983).

Related to the principles of health education as applied to the disorder in breathing patterns of the individuals researchers have proposed the following four psychosocial theories:

a) Self-Efficacy Theory –

This theory is given by Bandura (1969) and he emphasizes on the fact that a particular individual’s health related behavior changes according to the social learning he/she acquires which mainly involves acquisition of new ideas and behavior largely through observation and modeling of others. It basically stresses upon the respondent’s self-perceived ability to cope with a given situation.

Different schemes have been proposed by Bandura to explain the development of self-efficacy which includes four ways viz.
- **Enactive** – Successful performance of Asthma management behavior E.g. will increase a person's confidence in his/her ability to repeat the behavior.

- **Vicarious** – Observation of a credible Asthma role model performing self-management behavior which enhances the self-efficacy of an individual.

- **Persuasive** – Encouragement and exhortation (refrain) that can alter the feelings of self-efficacy.

- **Emotive** - Moderate levels of emotional arousal which may provide an optimal effect on task performance ensuing adequate self-efficacy.

Moreover, Gonzalez et al; (1990) have identified four empirical ways to enhance self-efficacy: reinterpretation of signs and symptoms; skills mastery; modeling; and persuasion.

Moreover, w.r.t. to the principles of health education as applied to Asthma another theory proposed by the researcher is Stress and Coping Theory.

**b) Stress and Coping Theory** –

Lazarus and Folkman (1984) define coping as “the person's constantly changing cognitive and behavior efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding a person's resources. These cognitive components constitute mainly of predisposing and enabling factors wherein, successful coping is called self-reinforcing.
In addition to that, Gonzalez et al; (1990) identified several potential coping strategies of relevance to Asthma education, including: confronting, distancing, self-control, seeking social support, accepting responsibility, escape-avoidance, positive reappraisal, activity, distraction, and self-talk.

In addition to that, another theory proposed by the researcher is Learned Helplessness Theory.

c) **Learned Helplessness Theory** –

Seligman (1974) proposed this theory which stated a person who is faced with an “insurmountable” task will on occasion appear to behave in a manner consistent with feelings of helplessness, Depression, and a sense of failure.

This theory also suggests possible sequencing of interventions. For certain patients, it may be appropriate to emphasize cognitive/emotional aspects (related to perceptions of helplessness) before the presentation of behavioral and skills-oriented educational approaches.

Further to that, another theory proposed by the researcher is Social Support Theory.

d) **Social Support Theory** –

Social support theory tends to function either as an enabling or as a reinforcing factor which provides resources, approval, reward, or comfort which are apt to follow the actions that will tend to be repeated or sustained. Cohen and Wills (1985) further examined whether the positive association between social support and Well-Being are
attributable more to an overall beneficial effect or to a process protecting or supporting persons coping with potentially adverse effects of stressful events (known as buffering model).

The evidence for the buffering model was found that in relationship to; the social support measure and the perceived availability of interpersonal resources. The results found were that the Asthmatic patients would benefit greatly not only from social resources that can be accessed in times of need, but also from a high degree of ongoing integration into a large social network.

Another theory proposed by the researcher is Psychological Theory, Assessment and Interventions for Adult and Childhood Asthma.

3) Psychological Theory, Assessment and Interventions for Adult and Childhood Asthma

The theory is developed by Thomas et al; (1991) British Journal of Medical Psychology. In which the author has given a brief description of the disorder called Asthma by comparing three different definitions of American Thoracic Society (1987), Pearlman (1984) and Williams (1982). Mainly the occurrence of the responses including constriction of the smooth muscle in the bronchial wall; swelling of the bronchial walls; increased mucus secretion; infiltration of the inflammatory cells or; a combination of these factors is commonly referred to as Asthma attack.

The theory also emphasizes four major characteristics of Asthma: the hyperreactivity of the airways, intermittency, variability and reversibility of attacks. Consequent to this, another psychological system perspective given by Sadler (1982)
includes various factors which are important in the assessment and treatment of many
cases of Asthma especially with hypersensitive airways.

In addition to the above three theories, the additional theory proposed by the
researcher is The Psychosomatic Theory of Bronchial Asthma.

4) The Psychosomatic Theory of Bronchial Asthma

This theory is developed by Groen (2007), Journal of Psychosomatic
Research. In which, the author presents it as a paradigm of theory formation in
psychosomatic medicine. The first formulation of the theory was based on clinical and
psychiatric observations. Further, it was tested by psychological, physiological and
experimental methods. This result was further reformulated and extended. In its
present form it regards Asthamic breathing getting triggered due to typical behavior of
a domineering personality with which the individual picks up a conflict. This results
not in aggression or depressive behavior but is reflected in motoric verbal discharges
with the commanding figure. Psychologically the individual will get induced with
abnormal forceful contraction of the abdominal muscles leading to irregular
respiratory patterns causing sudden outburst of Asthma.

After describing the above mentioned theories of Asthma, it is now the need of
the hour to understand the important role it plays in the public health as per the World
Health Organization (WHO).
1.11 The Role of World Health Organization (WHO) for Asthma

World Health Organization recognizes Asthma as a disease of major public health importance and plays a unique role in the co-ordination of international efforts against the disease. International action is the need of the hour as mentioned w.r.t the following by WHO:

- Increase public awareness of the disease to make sure patients and health professionals recognize the disease and are aware of the severity of associated problems.
- Organize and co-ordinate global epidemiological surveillance to monitor global and regional trends in Asthma.
- Develop and implement an optimal strategy for its management and prevention (many studies have shown that this will result in the control of Asthma in most patients).
- Stimulate research into the causes of Asthma to develop new control strategies and treatment techniques.

The programme objectives by WHO are enumerated below:

- Surveillance to map the magnitude of Asthma, analyze its determinants and monitor trends, with emphasis on poor and disadvantaged populations.
- Primary prevention to reduce the level of exposure to common risk factors, particularly tobacco smoke, frequent lower respiratory infections during childhood and air pollution (indoor, outdoor and occupational exposure).
• Improving access to cost-effective interventions including medicines, upgrading standards and accessibility of care at different levels of the health care system.

1.11.1 Activities conducted by WHO especially for Asthma

1) International Study of Asthma and Allergies in Childhood (ISAAC): WHO collaborates in ISAAC and, more particularly, in the implementation of the study in developing countries with areas of severe air pollution. A preliminary objective is to obtain information on the association between Asthma in children and air pollution. The first results of this study have shown the prevalence of Asthma symptoms and they vary from 1.6% to 36.8%.

2) Global Initiative for Asthma (GINA): In 1992, WHO and the US-based National Heart, Lung and Blood Institute (NHLBI) jointly formed GINA to cut the number of deaths and disability in the world by developing and implementing an optimal strategy for Asthma management and prevention. Since its inception GINA has taken the following steps:

• Produced a report covering a range of information detailing all the latest knowledge on causes, the mechanism of the disease, risk factors, management, education and socio-economic factors;
• Developed guidelines on Asthma management for doctors, nurses, public health officials, patients and their families;
• Held workshops to introduce the GINA programme to public health officials and medical professionals in more than 80 countries, leading to implementation of the guidelines;
• Been active in disseminating information in 20 languages and bringing together organizations devoted to improving Asthma care;
• Backed research efforts to improve Asthma management.

GINA's goal is to build an active network with multiple organizations concerned with Asthma to ensure better patient care world-wide.

3) **WHO Initiative on Allergic Rhinitis and its Impact on Asthma (ARIA):** WHO is developing a strategy for the prevention of Bronchial Asthma through the management of Allergic Rhinitis which is defined as an allergen-induced inflammation of the membranes lining the nose. The strategy was conceived by specialists from all over the world at December 1999 meeting on ARIA. Based on the time of exposure to the allergen, allergic rhinitis can be subdivided into perennial, seasonal or occupational disease.

For Bronchial Asthma according to ARIA, following are the three facts mentioned in the literature:

• Among the broad spectrum of allergic diseases, Bronchial Asthma is the most prevalent, dangerous and life-threatening.
• Underestimated up to now, Allergic Rhinitis is an important risk factor for Asthma.
• One efficient way to prevent Bronchial Asthma is to control and treat Allergic Rhinitis from the very beginning of its inception.
The specific goals of ARIA are defined as follows:

- To increase awareness of allergy and allergic diseases as a preventable public health problem among the medical community, public health officials, and the general public;
- To prepare evidence-based guidelines for the prevention and management of allergic rhinitis as a key element of primary prevention of Bronchial Asthma.
- To educate physicians and other health care professionals about the relevance of Allergic Rhinitis to Bronchial Asthma.
- To educate the public about the potentially fatal risks of allergy (anaphylaxis) and Asthma, especially in children, and to encourage greater dialogue with their physicians. Better education and increased dialogue could avoid approximately 25,000 childhood deaths due to Asthma each year.

4) Global Alliance against Chronic Respiratory Diseases (GARD): Global Alliance against Chronic Respiratory Diseases (GARD) contributes to WHO’s work to prevent and control chronic respiratory diseases. It is a voluntary alliance of national and international organizations and agencies from many countries. It focuses on the needs of low-and middle-income countries and vulnerable populations and fosters initiatives that are tailored to local needs.

The above discussion made under various titles, clarifies the clinical picture of Asthma. An effort is made in the present research to study the impact of Asthma on Adjustment, Depression and Well-Beingness of the person. However, the terms used and selected in the present study can be explained as under:
1.12 Clarification of the Variables of the Present Problem

The basic terms Adjustment, Depression and Well-Beingness of the present study are described below:

➢ Adjustment:

Adjustment is the ability or skill-set of the person by which the individual maintains the harmony among the group of surrounding people. It is the measure of effectiveness how the individual’s personality functions in the society. A person is said to be well adjusted, when the individual is able to play his/her given role in the various circumstances. According to one’s various needs and requirements, the well adjusted individual is acquiring an ability to get satisfaction of his/her various needs.

However, the term ‘Adjustment’ defined by various Psychologists is as under:

- Coleman (1984), “Adjustment is the outcome of the individual’s attempts to deal with the stress and meet his needs: also his efforts to maintain harmonious relationships with the environment.”

- Sharma and Joshi (2010), “Adjustment is the process by which a living organism maintains a balance between its need and the circumstances that influence the satisfaction of these needs.”

- Shaffer (1956), “The relationship, which becomes established among the biological heritage or organism, the environment, and the personality is Adjustment.”
• Eysenck (1975), “Adjustment as a state in which the needs of the individual on one hand and claims of society on the other hand are fully satisfied.”

• Lazarus (1976, a), “Adjustment consists of psychological processes by means of which the individual manages to cope with various demands or pressures.”

• Lazarus (1976, b), “Adjustment as an achievement means how the effectiveness with which an individual can function in changed circumstances and is, as such, related to his adequacy and regarded as an achievement that is accomplished either badly or well.”

• Boring (1948), “Adjustment is a state of harmony between the needs, activities, resources of a person and the condition of his milieu.”

• Good (1959), “Adjustment is the process of finding and adopting modes of behavior suitable to the environment or the change in the environment.”

• Drever (1952), “Adjustment is defined as the modification to compensate for or meet special condition.”

• Smith (1961), “A good Adjustment is one which is both realistic and satisfying. At least in the long run, it reduces to a minimum of the frustrations, the tensions and anxieties which a person must endure.”

• Clark (1970), “Adjustment is a harmonious relationship with the environment in which most individual needs are satisfied in socially acceptable ways, and resulting in forms of behavior which may range from passive conformity to vigorous action.”
All the above mentioned definitions suggest the various aspects of Adjustment; mainly they indicate the skill or way of person of satisfying needs, his/her harmonious social interaction and good coordination with the environment.

Depression is the second basic terminology of the present study of researcher which is described below:

➢ Depression:

Mood variation is commonly observed in all individuals. But it does not become a psychological issue for all the persons for all the time. When one cannot control his/her mood variation, it makes the person passive and disabled in his/her social and occupational life, it leads to Neuroticism which results into either manic or depressive reaction.

The depressed person becomes so sad, anxious, hopeless, irritable, restless, pessimist that as a result of Depression, the individual gets the feeling of emptiness. Thus, during the bout of Depression, the fatigue level of the person increases, energy level decreases and the concentration level depletes in such a way that the individual feels dehydrated and listless.

A person who is depressed may experience some of the following additional symptoms:

- Lowered self-esteem
- Heightened self-depreciation
- Slowness of thought or action
- Loss of appetite
- Disturbed sleep or insomnia
Various renowned psychologists have given the following definitions of the term ‘Depression’:

- Carson, Butcher and Mineka (2000), “The person must experience significantly depressed mood or loss of interest in fun activities for at least two weeks.” In addition, the person must experience at least four of the following symptoms during the same period:
  
a) Fatigue or loss of energy
  
b) Insomnia or hypersomnia
  
c) Decreased appetite and significant weight loss without dieting
  
d) Psychomotor agitation or retardation
  
e) Diminished ability to think or concentrate
  
f) Self-denunciation to point of claiming worthlessness or guilt out of proportion to any past indiscretions
  
g) Recurrent thoughts of death or thoughts of suicide

- Coleman (1964), “When you’re depressed, it’s common to think that there’s no good reason that you’re having trouble getting out of bed, struggling to concentrate, or feeling so low.”

- Elsevier (2009), “A mood disturbance characterized by feelings of sadness, despair and discouragement resulting from and normally proportionate to some personal loss or tragedy.”
• Allport (1921), “Depression is a mood characterized by varying degrees of sadness, disappointment, loneliness, hopelessness, self-doubt and guilt.”

• Farlex (2012), “A temporary mental state or chronic mental disorder characterized by feelings of sadness, loneliness, despair, low self-esteem, and self-reproach; accompanying signs include psychomotor retardation or less frequently agitation, withdrawal from social contact, and vegetative states such as loss of appetite and insomnia.”

• Lynne (2010) defines that, “Depression is often a signal that certain mental, emotional and physical aspects of a person’s life are out of balance.”

• According to DSM-IV (1994), Depression is “An emotional state characterized by extraordinary sadness.”

• American Psychological Association (APA), “Depression is more just than sadness. People with Depression may experience a lack of interest and pleasure in daily activities, significant weight loss or gain, insomnia or excessive sleeping, lack of energy, inability to concentrate, feelings of worthlessness or excessive guilt and recurrent thoughts of death and suicide.”

• American Psychiatric Association (APA), “Depression is a serious medical illness that negatively affects how you feel, the way you think and how you act.”

Well-Beingness is the third basic terminology of the present study of researcher which is described below:
➢ Well-Beingness:

Well-Beingness is the sum total of wellness of human body. This is the parameter of the happiness, satisfaction and peace of mind. Well-Beingness is also derived from various other spheres of life including physical, psychological and spiritual angles. As a combination of various positive energies, Well-Beingness is an indication of contentment on the face of individuals. This is reflected in the personalities in the form of good words and deeds.

Well-Being of the individual can be explained by the point of view of the following two perspectives:

a) The Clinical Perspective defines Well-Being as the absence of negative conditions.

b) The Psychological Perspective defines Well-Being as the prevalence of positive attributes.

The concept of Well-Beingness can be clarified w.r.t following definitions given by various Psychologists:

- Angner (2008), “Simple notion of Well-Being (i.e. ‘a life going well’) in a variety of ways, includes a person’s good, benefit, advantage, interest, prudential value, welfare, happiness, flourishing, eudaimonia (happiness), utility, quality of life, and thriving.”

- Gough et al (2007), define Well-Being as “What people are notionally able to do and to be, and what they have actually been able to do and to be.”
• McAllister (2005) define Well-Being as, “More than the absence of illness or pathology subjective (self-assessed) and objective (ascribed) dimensions.”

• Diener (2000) describes subjective Well-Being as, “People’s evaluation of their lives – evaluations that are both affective and cognitive.”

• Seedhouse (1995) compiles contemporary perspectives on Well-Being as follows:
  a) ‘Well-Being’ is an empty notion
  b) ‘Well-Being’ is an important and meaningful term which conveys meaning no other term conveys
  c) ‘Well-Being’ is ‘essentially contested’— its meaning and content fluctuates dependent on who is using it, and why they are using it

• Shin and Johnson (1978) have defined Well-Being as a form of happiness “A global assessment of a person’s quality of life according to his own chosen criteria.”

The prominent six characteristics of Well-Beingness in definitions are as follows:
• The active pursuit of Well-Being
• A balance of attributes
• Positive affect or life satisfaction
• Prosocial behaviour
• Multiple dimensions
• Personal optimization

As the Chapter - 1 clarifies the whole clinical picture of Asthma as a psychosomatic disease, Chapter - 2 is followed by the various studies and references relevant to the subject of the present research.