CHAPTER I

INTRODUCTION
Allergy is common to millions of people and there has been a growing incidence of the allergic disorders all over the world. In 1975, in the U.S., there were six million people with asthma. Patterson (1980) quotes a study which reveals that among the diseases, that may result from allergy, asthma is the most important source of morbidity and mortality and the incidence has increased greatly. The prevalence of the allergic disorders is also very high in India, which is evident from the morbidity surveys carried out at New Delhi and Patna in 1975. These studies reported that 1-2% of the population suffers from bronchial asthma and another 5% from common allergic colds, and another 2-3% of the population suffers from allergic skin disorders. In other words, the prevalence of the allergic disorders affecting respiratory system and skin alone is approximately 10% (5 crores) of the population. The figure rises to somewhere between 12-15% of the population, if one includes allergic disease affecting
other systems of the human body also (Shivpuri, 1975). The essential features of the term allergy are defined by Von Pirquet (1906), as the acquired specific altered capacity to react. Farr and Spector (1975) defined allergy as "untoward physiologic events, mediated by a variety of different immunologic reactions." In simple words, allergy means development of hyper-sensitivity to usually harmless substances which subsequently act as allergens. Thereafter whenever that individual comes in contact with or is exposed to such substances, there is an excessive reaction, his tissues suffer mild or severe damage, depending upon the degree of hypersensitivity and intensity of exposure to the substances in question.

Three types of allergic responses are concerned in the production of respiratory disease. The type I or anaphylactic response, the type II or Arthus-type response, and type III may be concerned in the production of some forms of pulmonary eosinophilia, such as allergic broncho-pulmonary aspergillosis. Type IV or tuberculin type allergic responses which are cell mediator and do not involve circulating antibody, are usually associated with delayed hypersensitivity reactions in conditions such as tuberculosis but may be concerned in predominant Type III reactions, such as allergic alveolitis.
Type I and III are the classical type of allergic reactions and are more common. The main cause of the allergic symptoms is the excessive reactions and tissue damage. The symptoms thus are manifested in the form of asthma, allergic colds, skin eruptions or eczema depending upon the organs involved. The substances causing these reactions are known as allergens (Gillie et al., 1982; Eaton et al., 1982).

During the last decade the importance of emotional factors in allergic disorders have become more generally acknowledged. There is evidence that illness may be aggravated by emotional strain and that anxiety and excitement can bring on an attack (Tal and Michlish, 1975; Horton et al., 1978; Bengtsson, 1984). The emotional problems and conflicts which are found prominent in many of the allergic syndromes and their significance in the etiology of the allergic disorders, is evident from many a researches conducted in the area of medicine (Salter, 1882; Saul, 1941; Dunbar, 1947a, 1947b; Glaser, 1948 critically reviewed papers on emotions and allergy; Alexander, 1950; Rees, 1956; Wittkower, 1952; Knapp and Nemetz, 1960; Jacobs, 1965; Ramachandran et al., 1974; Kagan and Weiss, 1976; and Lipowski, 1976; Talf Michlish, 1975; Horton et al., 1978; Patterson, 1980; Druva Kumar, 1980; Clark, 1982; Bengtsson, 1984).
In spite of so many references found in the literature, there has been considerable controversy about the causal role of emotional factors in allergic disorders, as also pointed out by Spiegelberg et al. (1970).

Some investigators in this field suggest that emotional upsets resulting from frustration and conflicts can prolong or intensify allergic attacks; whereas others view these concepts as simply expected secondary reactions to severe or prolonged illness.

It is also believed that emotional factors may reduce the threshold of susceptibility to allergic disturbance which is precipitated by an allergen or that allergen modifies somatic reaction sensitivity so that emotional factors precipitate an allergic disturbance (Golbert et al., 1980; Bengtsson, 1984). By now it is fairly well accepted that chronic and exaggerated emotional arousal can lead to adverse physical consequences in an individual who is organically vulnerable due to heredity and other biological factors. Since emotional problems and conflicts are found prominent in many of the allergy syndromes, the allergy diseases have been classified by some as psychosomatic, as if they were a separate group in themselves (Pierloot, 1969).

On the other hand, the current research in this area
has found results contrary to the previous findings. Former impression of some psychiatrists, that asthma was exclusively an emotional disturbance is incorrect, but the opposite opinion that emotions play no part in asthma is equally incorrect. It is generally agreed today, "without a basic substrate of immunophysiological vulnerability, no amount of emotional distress will provoke an attack of asthma", but if this substrate is present, the emotions may contribute to the severity of asthma, Leigh and Marley (1967), Kelley and Zeller (1969), Abramson (1973), Cohen (1975, 1977, 1982), Patterson (1980) also believe that these disorders should not be considered to be psychosomatic in origin. Emotional problems in the patient and the family can result from allergic disorders or pre-existing emotional difficulties can be aggravated. Emotional problems can aggravate the allergic disorders as was found by Bengtsson (1984).

From such findings it may be concluded that in spite of the conflicting views about the psychosomatic aspects of allergic disorders, they are still considered important and thus cannot be ignored. While discussing and emphasizing on the importance of psychosomatic aspects of allergy, Karnosh (1944), Block et al. (1964), Feingold et al. (1964) and Jacobs (1965) state both somatic and psychological
factors must be present for an allergic disorder to develop. No allergic person can be adequately evaluated without considering the personality structure in which the disease is implanted.

Before discussing the etiology of respiratory allergic disorders from psychosomatic point of view, it is essential to refer to the concept of psychosomatic medicine today. Psychosomatic medicine today, has been explained to refer to this unique interrelations of psychological and somatic factors in producing health and somatic factors in producing health as well as disease state. According to Kalucy (1979), "It is seen as a discipline of medicine in its own right which aims to establish a biology of health and disease".

Bavstecky and Boleloucky (1980) opined that, "Psychosomatic medicine is a scientific discipline, which may be regarded as a result of the interaction of organic, psychological, environmental and social determinants." They are the result of the chronically escalated emotions to the pathological levels that influence the constitutionally or developmentally determined organ or system. On further escalation of emotional reaction especially to negative stimuli (primarily due to psycho-social stress), a structural disorder occurs. Predisposition to the development of
psychosomatic reactions is probably genetically determined and also influenced by life events.

For explaining the etiology of the allergic respiratory disorders from the psychosomatic point of view, the following three main approaches have been put forward:

1. **Psychanalytic Approach:**

   The close relationship of allergy and emotional stimuli draws attention to the need for understanding the possible psychological causes and the unconscious dynamic factors underlying the latter as observed by many investigators.

   Saul (1941), Wilson (1948), McGovern and Knight (1967) observed that hay fever and allergy in general as well as colds are manifestations of suffered intensification and frustration of positive receptive wishes with a strong oral component; or as being the result of inadequately repressed olfactory sexual impulses which remained a source of conflict and constant nasal irritation. A few writers have been critical of these formulations. Ibor (1956) doubts psychogenic explanations for asthma, believing regressive wishes and other commonly attributed characteristics so ubiquitous as to lack explanatory value.
A number of other investigators also emphasize on the various hypothesized conflicts in allergic individuals. The most outstanding has been that asthma is psychodynamically characterized as a repressed cry, an attempt to satisfy unresolved dependency, suppressed libidinal desire, often closely connected with the longing for mother, (French and Alexander, 1941; Fenichel, 1945; Weiss, 1950; Jessner, 1955; Peshkin, 1960 in case of asthmatic children; Saul and Lyons, 1954 and McGovern and Knight, 1967). Such individuals generally exhibit a deep seated emotional insecurity, intense need for parental love and affection and fear of losing this support. Thus the "Separation Anxiety" is mobilized with the fear of separation, loss of love from the mother, father, sibling or other significant persons in the patient's life (Neuhaus, 1958; Knapp and Nemetz, 1959). But French (1950) noted that these hypotheses were developed from the study of asthmatics in severe enough emotional distress to undertake psychoanalysis, but he also felt that all kinds of conflicts associated with the illness should generalize to less disturbed groups. Purcell (1965) also found that asthma symptoms are not a form of repressed crying. On the other hand, Deutsch (1951) considered breathing an ego function similar to posture and gait. The asthmatic patient's ego cannot resolve intra psychic conflict around moving towards others for gratification (inspiration) or moving away and
inhabiting the impulse (expiration). The result is a disorganised breathing pattern.

Conflicts around toilet training and compliance may be regarded as the origin of asthma by some investigators. Bacon (1956), believed that excretory fantasies and stimulation could stimulate the respiratory tract reflexively. Though these authors have come forward with important results but they have relied completely on inferential material from psychoanalytical sessions; and thus it becomes difficult to test them adequately with any kind of research approach. Stovkis (1959) and Kelly (1969) reviewed literature on emotional factors and personality of asthmatics. The review suggested that neither personality structure nor areas of conflict are unique to allergic patients, but that all allergic individuals share an ambivalent attitude towards the mother. Further, asthmatics considered separately from other types of allergic patients seem to be hypersensitive to separation or loss of dependency. But in later studies Stem and Schiavi (1975) and Singh et al. (1977) found amongst asthmatic children that specific personality structure in asthma does not exist. Asthmatic patients are not different from normals, nor from patients having bronchitis, according to psychological and psychophysiological studies (Oswald et al., 1970).

Some investigators report a special pattern of childhood relations. Especially mother-child relationships have
been found quite consistent and important in the precipitation of allergic disorders (Miller and Baruch, 1950, 1957, 1958; Mathis, 1964; Pashkin, 1960). Rejection is a significant influence and link between frequency of maternal rejection with respiratory symptoms has been reported (Alexander and Visotsky, 1955; Hurst et al., 1950; Bostock, 1956; Jessner et al., 1950).

Alexander (1941), Greenfield (1950) and Miller and Baruch (1950, 1951, 1957, 1960) while stressing on the French and Alexander hypothesis, in the series of their papers believed that maternal rejection is etiologically important in the development of allergic symptoms. This maternal rejection causes anger and blocked hostility towards the mother. In an individual with allergic predisposition, the allergic symptoms are thus thought to be an expression of such feelings and attempts to regain closeness through illness.

The most important point which lacked in these studies is that there are neither controlled nor prospective studies which clarify the role of such psychic mechanisms in this disease. They have not described their criteria for ratings of maternal rejection or hostility expression. Moreover, if the results obtained were completely based upon inferential material, involving the interpretation by the
investigator; then this procedure cannot be completely free of subjective alterations (Aggarwal and Sethi, 1978).

Besides rejection as a significant influence, variable degrees of introjection or overprotection occur (Little and Cohen, 1950; Neuhaus, 1958). The "typical" asthmatic has a dependent relationship with an overprotective parent, usually mother (Edgall, 1966). Such parent-child relationships have been evaluated. But Kelly (1969) points out that no consistent association could be determined between variables of the family situation and variables of the patient's asthma.

Several other investigators have tested hypotheses about the maternal role in asthma by psychological study of the mothers (Fitzelle, 1959; Cutter, 1955 and Block, 1969). They did not find any differences between the mothers of asthmatics as compared to the mothers of the normals.

The psychodynamic theorists tend to conceptualize the etiology and treatment of various psycho-physiological disorders in essentially the same way that they conceptualize the neurosis. In fact they call the psycho-physiological complaints organ neurosis (Weiss, 1950) or Somatic Weakness Theory (Lachman, 1972). This theory (Weak Organ Theory) is also supported by Sines (1961) and Rees (1964). These theorists hold
that the most vulnerable organ becomes malfunctional or is damaged in response to stressful stimulation. These theories focus on genetic vulnerability but the effects of injuries, disease, and other earlier influences may also contribute to biological vulnerability.

2. Behavioural Approach:

This approach does not emphasize on the feeling states of the patient as in the psychoanalytic approach, but on his breathing behaviour which is regarded as a response to certain environmental or memorised stimuli. As no patient is born with asthmatic breathing, asthma is considered as certain innate disposition of the organism to respond whether it arises from an unconditional stimulus by complying with a conditioned stimulus through a classical Pavlovian mechanism or whether it is caused by instrumental conditioning or both, has not yet been established.

French and Alexander (1941) and others suggest that one of the psychological factors involved in bronchial asthma is analogous to the conditioned reflex. Stimuli that has been regularly associated with the presence of an allergic substance may precipitate an attack in a susceptible individual.
The importance of conditioning playing a significant role in the respiratory distress is evidenced by many studies based on behavioural theory. Important studies in this area have been reported largely done on animals (Liddel, 1951) and few on human beings (Herxheimer, 1953; Dekker et al., 1957). Such studies suggest that symptoms with varying degrees of clinical similarity to asthma may be produced by various means of conditioning procedures, Turnbull, 1962; Moore 1965; Ottenverg et al., 1958; Noelpp and Noelpp-Eschenhageh, 1951, 1952, found such results with classical conditioning procedure. The classical conditioning contributes to the development of hypersensitivity of the respiratory passages to the non-allergic stimuli which are associated with recurrent experiences of bronchial irritation caused by infection or allergy. The instrumental conditioning appears to be related to the conditioning of certain emotional reaction. Kahn (1973) concludes that some asthmatic attacks are precipitated or aggravated by psychological causes including conditioning.

While discussing allergy as a conditioned response, Hansen (1981) reports a theory according to which allergy stems from a defense function of the respiratory tract's mucus membranes. In conflict situations where emotional impulses cannot be expressed, persons with a specific disposition and certain learning experiences tend to suffer an obstructive hyperfunction of the nasal and/or bronchial mucus, including hyperemia; swelling, hypersecretion and spasms of the bronchial muscular system. These modifications
result from suppressed aggressive expressions and avoidance tendencies. The obstructive hyperfunction (which can also be caused by bronchial asthma or chronic rhinitis) creates "critical phases" during which the immune system can be activated against sufficient quantities of atopic allergens. However, this theory has not been experimentally proved.

Conditioning procedures have also been used as one of the methods of treatment as reported by Scherr et al. (1975) and Feldman (1976). Conditioning studies may be very useful in explaining how asthma in the human beings is developed and maintained through a combination of allergenic and emotional stimulation.

3. Psychometric Approach:

This approach lays emphasis on the quantification of psychological status and traits to replace less reliable clinical impression. Data of this kind lends itself to comparative study of the patients in different diagnostic categories and also contributes to a body of knowledge on personality development and the probable association between the character traits and different symptom formation.

A number of studies using clinical material, projective tests, personality inventories, and other types of questionnaires have thrown light on the personality of
allergic patients (Dekker et al., 1961; Leigh and Marley, 1956; Franks and Leigh, 1959). Some other studies have contrasted projective test responses of asthmatics and non-asthmatics (Israel, 1954; Neuhaus, 1958; Alcock, 1960; Purcell et al., 1962; Herbert, 1965). Interviews, medical histories, and behaviour ratings have also been used (Rees, 1956; Harris and Shure, 1956).

By and large investigators working with psychometric approach have been in quest of a typical personality profile of allergic patients contrasting it with the personality of non-allergic persons.

**EVIDENCE OF EMOTIONAL FACTORS IN ALLERGIC DISEASE:**

Many findings indicate that psychological factors are of considerable importance in understanding allergic disorders (Rogerson, 1937; McDermott and Cobb, 1939; Wolf et al., 1950, 1952; Dekker and Groen, 1956; Knapp and Nemetz, 1960; Bursten, 1962; Godfrey and Silverman, 1973; Ramachandran et al., 1974; Kagan and Weiss, 1976; Horton et al., 1978; Bengtsson, 1984; Tunsater, 1984).

The view that emotional disturbances play an important role in the allergic disorders can be traced back to
Hippocrates (1928) who recognized that anger and hostility influence the asthmatic paroxysm. It has been known from the ancient times that asthma may be precipitated by anger and that certain dermatological conditions are also markedly affected by emotions. Psychological factors may precipitate, aggravate or prolong the clinical symptoms of allergy and may often vitiate their successful medical treatment (Rees, 1959).

The relationship between the allergic hypersensitivity and emotional suggestibility is classically exemplified by the rose pollen sensitive hay fever patient in whom an attack was precipitated by the sight of a paper rose or by a picture of hay making or inhaling ordinary air or oxygen alone, though an atomizer similar to the one through which they had previously breathed in some substance to which they were allergic (Dekker et al., 1957).

Wittkower and Petow (1952) found that emotional disturbances act as a catalyst on dormant allergic predisposition. Knapp et al. (1970) also observed that stress, emotional arousal and failing defenses activate a postulated primitive core of unconscious conflict to form the psychological context of asthmatic exacerbations. Rees (1959) and Matus (1981) found that emotional events are important to the extent of affecting and changing the pattern of illness; in some cases from seasonal to perennial in response to emotional factors.
The evidence supporting the assumption that psychological/emotional factors play a part relevant to the etiology of allergic disorders can be summed up under the following headings:

(i) The similarity in personality structure and psychodynamics of patients suffering from allergic disorders.

(ii) The inadequacy of immunological findings in some patients suffering from allergic disorders.

(iii) The responsiveness of allergic disorders to psychiatric therapies.

(iv) The precipitation of the onset of allergic disorders, of their relapse and of individual attacks by stressful situations and emotional disturbances in many individuals (Bergson, 1850; Halliday, 1937; McDermott and Cobb, 1939; Dekker and Groen, 1952; Jessner, 1955; Rees, 1959; Peshkin, 1960; Matus, 1981).

Several investigators have dealt with the role of emotional or psychological factors in allergic disorders from an explanatory point of view, simply asking whether any psychological characteristics distinguish allergic from non-
allergic individuals. Some authors have approached this view by describing the personalities of allergic individuals and then made comparisons, either directly or indirectly with non-allergic individuals. These studies centered on the concept of allergic personality and sought to delineate highly specific personality traits common to allergic patients (Rogerson, 1937; Dunbar, 1938; Saul, 1941; Mansman, 1952; Brown, 1967; Smith, 1962; Kourilisky, 1965; Rosenthal, 1973; Taneli and Ulrich, 1976; Rees, 1980; Kinsman et al., 1980). Dunbar justifies such a view by suggesting that certain persons may be more susceptible to one or another type of illness.

On the basis of experimental studies and clinical experiences of the various investigators working in this area; the most outstanding feature found in the allergic personality have been a strong longing for love, a longing of the infantile dependent kind of the child for his mother. It arises from a sense of deprivation of maternal love in childhood and leads to a passive dependent relationship to the mother and to a fear of estrangement from the mother; fear of being left alone (Separation anxiety) mainly because of deprivation of maternal love in childhood. Situations which arouse and reactivate these fears precipitate the onset of allergic disorders; of relapses and of individual
attacks (Rogerson, 1937; Dunbar, 1938; Saul, 1941). Smith (1962) found that as compared to non-allergic individuals the allergic patients admitted to a variety of conflicts more often; these included conflicts over dissatisfaction with parents and such manifestations of conflicts as alienation and cynicism and feelings of inadequacy and depression. Kourilisky (1965) also found that the allergic personality indicates the presence of conscious unresolved conflicts with effective frustration. According to him, these factors are also important besides immunological mechanisms, genetic inherited factors including hypersensitivity to histamines.

Other features which have been found common in such patients are: Asthmatics as more neurotic, insecure, and dependent. Analytically, it might be said that they had weak ego organisations with an inadequately assimilated super ego (Dunbar, 1938; Neuhaus, 1958).

They were also found to be over anxious, low on self-confidence, afraid, insecure, tense, restless and irritable, over-aggressive, over-active and having domineering tendencies. They had homicidal trends associated with an impulse to self-injury (Rogerson, 1937; Dunbar, 1938).

A number of investigators indicate that when one looks within an allergy population, one finds besides
immunological differences, also important differences in personality as well. Mainly because they have observed that some of the patients while suffering from symptoms suggestive of allergy, present negative immunological findings. Therefore, they hypothesized that allergic patients can be classified roughly into groups on the basis of greater or lesser skin reactivity to allergens and that there may be important psychological differences associated with these groupings (Feingold et al., 1962; Block, 1963).

Mitchell et al. (1947) found that those patients who frequently had negative skin tests and did not respond to treatment were mostly older, females, who complained of mainly physical problems and adjustment difficulties. Purcell et al. (1960) found important psychological differences between the rapidly remitting children who more often viewed emotional events as precipitants of asthma attacks, than did steroid dependent children. The prevalence of neurotic characteristics on a number of psychological tests, however, did not distinguish the children in the two groups.

The relationship between psychological factors and/or personality variables and allergy disorders have been explored by few other investigators also. They used various kinds of control groups, for example, individuals suffering from other
physical disorders or normal healthy individuals. Important personality differences were reported between the allergic individuals as compared to those with other physical disorders or normal healthy controls. Barendregt (1957) compared twenty male hospitalised asthmatics with a like group of ulcer patients on the Rorschach test. He found that asthmatics have more themes of oppression, hostility, and impulsive behaviour than ulcer patients. But Ring (1957) reasoned that "If personality patterns and specific illnesses were associated, patients with one illness should be distinguished from those with another by personality study alone. On the basis of one of his studies, he categorised subject's responses to standard leading questions. He classified some illness groups as excessive reactors emotionally and others as deficient reactors; asthmatics were restrained reactors."

In other personality studies, some investigators have taken patients with non-allergic respiratory disorders and also normal healthy controls as their subjects. Ramachandran et al. (1974) observed that on Maudsley Medical Questionnaire, significantly higher number of patients in asthma group gave neurotic responses as compared to pulmonary tuberculosis patients. On Cornell Medical Index also significantly higher number of patients in asthma group were found to exhibit disturbances in moods and feelings.
While pointing out the importance of the role of psychological factors in the allergic disorders, many authors emphasize on the psychological treatment of the allergy patients with the assumption that if it resulted in cure or improvement in symptoms, psychological factors must have been important in the disease entity (Unger, 1959; Sirmay, 1953; Raginsky, 1962; Feingold, 1966; Knapp and Wells, 1978; Tunsator, 1984). The aim has been to discover whether important differences exist on psychological dimensions between allergic and non-allergic individuals. Authors usually have avoided assigning a direction of causation. This is mainly because of the fact that there are sharp differences of opinion and wide variations in the interpretations of material procured from the study of psychological factors.

There are enough anecdotal accounts of the successful psychological treatment with allergic patients to conclude that at least sometimes it is of benefit in controlling allergic symptoms as reported by Feingold (1966).

Emotional factors and the personality of the asthmatics were reviewed by many investigators. They could not find any positive findings regarding specific personality types in asthmatics. Kelly (1969) concluded that the concept of acute
and chronic emotional stress and the likelihood of asthma becoming continuous could not be confirmed. Psychologic stress was rarely the dominant etiologic factor, but it has been recognized as an aggravating influence in some cases. Many researchers (Neuhaus, 1958; Lindta and Goldman, 1961; Bristow, 1963; Fein and Kamin, 1965; Herbert, 1965; Stein and Schiavi, 1975; in children Singh et al., 1977; Nigam et al., 1983) could not find any evidence for specific personality type peculiar to asthma. Neuhaus concluded that many previously reported psychological findings might be attributable to the experience of chronic illness.

Within the allergic population, Dekker et al. (1961) likewise failed to find any differences in neurasthenia between the female asthmatics having "manifest allergy" and "no manifest allergy" on the basis of skin and inhalation tests.

Recently Patterson (1980) opined that, "Patients with allergic disorders are heterogeneous in personality, psychodynamic characteristics, and family relationships. Generalizations regarding the entire spectrum or even individual syndromes cannot be made. The concepts of asthmatic personalities, asthmaticogenic psychodynamics, and asthmaticogenic parents are not supported by scientific studies." Bengtsson (1984) puts forth his views as, "Bronchial asthma was earlier regarded as a nervous disease. Later on, it was defined as
an immunological disorder, but today asthma is regarded as a disease with a multifactorial etiology. Many different trigger factors have been demonstrated and in addition to, allergies infections, biochemical and hormonal factors, psychosocial factors are also suspected to be initiating mechanisms.

It may be pointed out here that many studies have been reported in favour and also controversial concerning the relationship of particular personality patterns or kinds of emotional patterns to the development of allergic disorders. To date research evidence in support of those contentions has been neither conclusive nor impressive.

Even though it may be objected that there are of course, many persons who have conflicts and personalities similar to those described here but do not suffer from allergic disorders. To account for the somatic manifestations of allergic patients, one must assume that they are constitutionally predisposed to the disorders which they develop. And that specific psychodynamics are operative in them which do not exist in those, who despite a similar conflict constellation enjoy perfect health or suffer from different psychosomatic afflictions.

To sum up, in the investigator's view, the controlled trials and retrospective studies do not clear the mist around allergy patients as having distinctive personality pattern.
The previous research reports do not clearly and unequivocally confirm that it is a psychologically oriented disease. Though one cannot deny the fact that psychological factors do exist; yet because of the lack of well-controlled studies in this particular area, especially on Indian population, it would be worthwhile to probe into this area.