Chapter – III

Methodology
Before undertaking any research it is important that the researcher examine his/her problem, aims and objectives, so that it can be appropriately planned as to how these objectives can best be achieved. Taking into consideration the requirement of a scientific study, the present research has also been planned.

The purpose and objective of present study was to investigate the attributional style and anxiety sensitivity among asthmatic patients. The main concern of present research was to find out whether asthmatics and non-asthmatics have different attributional style and different levels of anxiety sensitivity or not. It was hypothesized that the attributional style and the level of anxiety sensitivity of asthmatics would differ from those of the non-asthmatic healthy normals. Further, these differences will be studied in the context of gender, age and tenure of disease. These comparisons will explain the phenomenon in a more intensive and exhaustive manner. Appropriate research hypotheses have been formed and are given in Chapter-I.

Sample

Participants of the present study comprised of 150 subjects: 75 asthmatics and 75 normal counterparts (non-asthmatic controls). The age of the participants ranged between 12 to 50 years. Asthmatic patients were undergoing investigations and treatments in Out Patient Department (OPD) of Jawaharlal Nehru Medical College of Aligarh Muslim University, Aligarh and other clinics in Aligarh city. Participation in the study was purely voluntary.
Asthmatic patients (who were diagnosed by specialists as asthmatics) were selected on the basis of purposive sampling (that is, judgemental sampling) technique, which is based on typicality of the cases to be included in the sample.

Today, purposive sampling remains the primary method for selecting large, representative samples for social science and business researches. In this sampling method the researcher purposively chooses persons who, in his/her judgement about some appropriate characteristic required for the sample members, are thought to be relevant to the research topic and are easily available to him/her.

Ideally, random sample procedure which is totally free from bias and permit each and every element of the population an equal chance of being part of sample should be followed. Randomization is necessary to ensure validity of independence assumptions but practical difficulties do not allow pure random sample. However, it is imperative that the element of bias should be controlled. This was kept in mind by the present researcher.

The purposive selection of the experimental group of asthmatic patients did not restrict the choice in the matter of their sex, educational level or socioeconomic status except age (that is, in the range of 12 to 50 years). A group of normal subjects was selected to serve as a control group. These normal subjects (both male and female) were of the same age group and matched with asthmatic subjects for such variables as educational level and
socioeconomic background. None of them reported any serious medical complication.

**Table:** Showing categorization of the sample and number of subjects in each group.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Total</th>
<th>Ages (in years)</th>
<th>Duration of Disease (in years)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>12-20</td>
<td>20-35</td>
</tr>
<tr>
<td>Asthmatics N=75</td>
<td>Male</td>
<td>38</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>37</td>
<td>10</td>
</tr>
<tr>
<td>Non-Asthmatics N=75</td>
<td>Male</td>
<td>38</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>37</td>
<td>10</td>
</tr>
</tbody>
</table>

**Tools of Study**

The following measures were employed for collecting information regarding the subject’s attributional style and anxiety sensitivity:

**Attributional Style Questionnaire (ASQ):** The attributional style of the subject was measured with the help of Attributional Style Questionnaire (ASQ) developed by Peterson, Semmel, von Baeyer, Abramson, Metalsky and Seligman in 1982 and revised by Peterson and Seligman in 1984.

ASQ is most widely known and used dimensional measure of attributional style. This measure was developed to test predictions from the reformulated theory of learned helplessness/depression (Abramson, Seligman and Teasdale, 1978), which holds that attributing uncontrollable bad events to internal, stable, and global factors leads to depression. The ASQ has proven to
be a valid measure of attributional style and it assesses habitual tendencies in the attribution of causes (Peterson et al., 1982).

This 12 item measure contains 6 items assessing the causal dimensions related to the interpersonal/affiliative events and 6 items to the achievement related events. In addition to this, out of 12 hypothetical events, half describes positive events (‘you become very rich’) and other half describes negative events (‘you can’t get all the work done that others expect of you’).

It was observed that 2 out of 12 items of ASQ were highly uncomfortable and irrelevant for the Indian surroundings because they are not part of experience of Indian population. Therefore, the phrase ‘spouse (boy friend/girl friend)’ has been changed by the word ‘friend’ in the statement ‘your spouse (boy friend/girl friend) has been treating you more lovingly’. In other statement ‘you out on a date and it goes badly’, the term ‘date’ has been substituted by ‘tour’. This practice was already carried out by Siddiq (1997) during her M.Phil. work, through pilot study.

The printed instructions of ASQ are self explanatory. Each item presents the individual with a statement to imagine an event and then requires the respondent to generate its one major cause. On the following 3 questions, that are always in the same order, subjects have to rate each cause along a 7-point bipolar scale (for instance, ‘totally due to other people or circumstances’
Peterson et al. (1982) suggested that the three attributional dimension rating scales associated with each event description are scored in the directions of increasing internality, stability, and globality. Composite scores are created simply by summing the appropriate item scores and dividing the sum by the number of items in the composite. Scores are derived by simply averaging within dimension and across events for individual dimension scores or across dimensions and across events for composite scores. Each individual dimension ranges from 1 to 7. Therefore, composite scores (composite positive and composite negative) range from 3 to 21. High score on any dimension of attributional style denotes internality, stability and globality and, on the other hand, low score on any attributional style dimension shows externality, unstability and specificity.

ASQ promises to be a reliable and valid instrument. It assumes a modest degree of cross-situational consistency in the type of attribution people make. Peterson et al. (1982) observed that the three scales, that is, locus, stability and globality have modest reliability with Cronbach’s alpha ranging from .44 to .69 (mean reliability of .54). Peterson and Seligman (1984) found Cronback’s alpha coefficient of revised ASQ range from .66 to .88.

A number of studies have explored the criterion and construct validity of ASQ. Peterson et al. (1982) followed correlational approach and
devised several methods of demonstrating the criterion validity of ASQ. The results of study conducted by Peterson, Bettes and Seligman (1982) demonstrated the construct validity for the ASQ in that it both taps spontaneously generated attributions and relate to theoretically relevant symptomatology. Other studies conducted by Zullow and Seligman (1985), Kamen and Seligman (1985) and Seligman and Shulman (1986) have further supported the construct validity of ASQ.

**Anxiety Sensitivity Index (ASI)**: (Age limit: 12 & more; time limit: 2-3 minutes) The Anxiety Sensitivity Index (ASI; Reiss, Peterson, Gursky and McNally, 1986) is an extensively developed, established, most widely used, tested instrument to measure the fear of autonomic arousal and shown to have good psychometric properties (Peterson and Reiss, 1992). ASI has popularity and utility in researches and clinical practices throughout the world and can be employed for the following purposes:

- To determine the level of fear of anxiety sensations.
- To assess Panic Disorder and Post Traumatic Stress Disorder.
- To assess dual diagnosis (substance abuse and anxiety disorder) in psychopathological researches.
- It prospectively predicts relapse vs durability of improvement.

ASI has been translated into 24 languages and more than 450 articles have used it (Anxiety Sensitivity Index, 2005).
ASI is a 16-item self-report questionnaire that taps content related to fears, worries, and concerns about not only anxiety but also a person’s fear of anxiety related somatic sensations. This questionnaire asks people to rate their fear of such symptoms as rapid heart beat, shortness of breath, nervousness and even stomach growling.

ASI broadly measures— (1) psychological concerns, that is fear of mental incapacitation concerns (called “phrenophobia” by Taylor et al., 1996); (2) social concerns that is, fear of publically observable anxiety reactions; (3) physical concerns, that is, (a) fear of cardiopulmonary sensation, (b) fear of respiratory sensations, (c) fear of gastro-intestinal sensations. A number of factor analytic studies and critical review of literature suggest that anxiety sensitivity has three lower-order factors that all load on a single higher-order (Zinbarg, Mohlman and Hong, 1999). The lower-order factors represent Physical Concerns, Mental Incapacitation Concerns, and Social Concerns, and the higher order factor represents the global anxiety sensitivity construct (Zinbarg, Barlow, and Brown, 1997; Zinbarg et al., 1999; Rodriguez et al., 2004; Dehon et al., 2005).

The instructions of ASI are brief, clear and self-explanatory, which are printed at the top of the questionnaire—“Circle the one phrase the best represents the extent to which you agree with the item. If any of the items concerns something that is not part of your experience (for example, “It scares me when I feel shaky” for someone who has never trampled or had the ‘shakes’), answer on the basis of how you think you might feel if you had
such an experience. Otherwise, answer all items on the basis of your own experience.

All the 16 items are presented with five phrase (5 point Likert type) answer format ranging from 0 (very little) through 4 (very much) used for record the responses. The subject choose the one phrase that best represent how much they generally agree with statements such as “It scares me when I feel faint” or “It scares me when I become short of breath”. Once the test is completed, scoring involves a highly simple system for which each item is scored on a 0 to 4 point scale: very little (scored as 0), a little (1), some (2), much (3), and very much (4).

Following the recommendations of recent factor analytic studies (for example, Zinbarg et al., 1997; Zvolensky and Forsyth, 2002), the three subscales involving ‘Physical Concerns’ (Items 3, 4, 6, 8, 9, 10, 11 and 14), ‘Mental Incapacitation Concerns’ (Item 2, 12, 15 and 16), and ‘Social Concerns’ (Items 1, 5, 7 and 13) were utilized. Although not without controversy, this solution has arguably been found to replicate most consistently across different populations (Zinbarg et al., 1999). However, the total ASI scores (that is, sum of all the points for all 16 items) was also used.

ASI is the most commonly used and most studied measure of anxiety sensitivity. It’s measurement issues, that is, norms, reliability and validity are also well studied (Peterson and Phehm, 1999).
The official norms compiled by Peterson and Reiss in 1991 (as cited in Anxiety Sensitivity Index, 2005) are based on studies that assessed 5459 nonclinical subjects and 1821 clinical (diagnosed) subjects. But, these norms are still valid today. The psychometric properties of ASI are well established. It has satisfactory degree of internal consistency and test-retest reliability. The internal consistency of the ASI is good with Chronbach’s alpha ranged from .82 to .91 (Peterson and Phahm, 1999). Previously, Peterson and Heilbronner (1987) have obtained the alpha coefficient of .88 and the Guttman split half reliability of .85, for a sample of 119 college students who had identified themselves as being anxious. Alpha coefficient for this scale was reported .82 for a sample of 840 college students (Telch, Shermis and Lucas, 1989); .87 for combined sample of 275 college students and 52 patients with panic disorder or agoraphobia (Cox, Endler, Swinson and Norton, 1991); and .91 for 93 psychiatric out patients and .84 for 142 spider phobic college students (Taylor, Koch and Crockett, 1991).

The ASI is a highly reliable measure. Reiss et al. (1986) calculated two week test-retest reliability of 0.75 for a sample of 127 college students. Further, the test-retest reliability has been reported to be .71 for college students over a 3-year period (Maller and Reiss, 1992; Peterson and Phelm, 1999). The reliabilities of the lower order scale were .86 for physical concerns; .83 for mental incapacitation concerns; and .65 for social concerns (Zinbarg and Barlow, 1996; Zvolensky and Forsyth, 2002).
Both factor validity and validity by criterion group comparison was determined certain group comparisons. A number of students have found that ASI scores are associated with diagnostic conditions in accordance with theoretical expectations (Reiss and McNally, 1985; Reiss, 1991). The criterion validity of ASI is exceptional (McNally and Lorenz, 1987; Reiss et al. 1986; Cox, Endler and Swinson, 1991; Rapee, Brown, Antony and Barlow, 1992; Taylor, Koch and McNally, 1992 etc.).

Procedure

The researcher first of all visited the out patient department for T.B. and Chest diseases, of J.N. Medical College, A.M.U. and other clinics in Aligarh. The data were collected individually in a separate room provided by the department for this purpose. Patients diagnosed with asthma were referred by the doctor for psychological investigation.

Normal control group consisted mostly of the relatives of the asthmatics who were free of the problem (any serious medical complication).

Subjects were presented with a brief description about the objective of the study. They were instructed adequately along with the assurance of confidentiality. The researcher established a harmonious relationship with the subjects. The subjects who were reluctant to participate were not tested and allowed to go. Following their agreement to participate, both the questionnaires (ASQ and ASI) were administered individually to the participants of the study. The researcher helped those subjects who faced
difficulty is understanding some of the items of the questionnaire because many subjects were either less educated or illiterate.

After data collection scoring was done and the data were processed/reduced which mainly involves various processes necessary for preparing the data for analysis (for instance - checking, editing, categorizing etc.).

**Statistical Analysis**

Means, S.D.s and t-values (two tailed probability) were computed to analyse the data for finding out the significance of differences on eight dimensions of attributional style, and anxiety sensitivity among the various groups.