# COGNITIVE FAILURE AND NEUROTIC SYMPTOMATOLOGY IN PANIC AND PHOBIC PATIENTS

## Dr.R. Kannappan, D.Litt.
*Associate Professor in Clinical Psychology, Vinayaka Mission Medical College, Salem, Tamilnadu, India.*

*Abstract*
*Background:  Anxiety disorders are accompanied by specific cognitive dysfunctions in perception/attention, memory and action. High levels of anxiety have been associated with elevated risks of coronary heart disease/death and sudden cardiac death among men. Several studies have suggested an increased risk of fatal coronary heart disease among patients with panic anxiety and phobic anxiety. Therefore it becomes very important to treat and study the patients with panic and phobic anxiety. Psychological interventions help the individuals not to progress towards coronary heart diseases.*

*Cross sectional design was used to measure cognitive failures and patients with panic anxiety and social anxiety (social phobia) and normal subjects and compare the levels of panic anxiety and phobic anxiety with normal subjects.*

*Sample: Thirty five male subjects with panic anxiety who experienced a cardiac event and thirty five male with phobic anxiety disorder and thirty five male normal subjects were the selected for this study. Cognitive failure questionnaire and panic scale and phobic anxiety inventory were administered to these three groups. Besides, demographic variables such as age, religion, income, education, and occupation were collected from the groups. Percentage and t-test were used for analyzing and interpreting the obtained data.*

*Results showed that the first two groups with anxiety disorders scored higher levels of cognitive failures and differed significantly in cognitive failures in perception / attention in panic disorder as well as in perception / attention and action in social anxiety disorder when compared to the group of normal subjects. The groups had significantly higher levels of panic anxiety and social anxiety in different components of cognitive failures.*

*Conclusion: The groups had scored higher levels of cognitive failures and differed significantly in panic and phobic disorders but the normal subjects had low level of cognitive failures. The present findings could help the planners to develop strategy / intervention to reduce panic and social anxieties, and cognitive failures of the subjects for better coping with their symptoms.*

*Key Words: Cognitive Failure, And Patients with Panic and Social (Phobic) Anxiety Disorders.*

## INTRODUCTION
Cognition refers to all mental activities involving in acquisition, processing, storing and retrieval of information, and cognitive failures are the problems of memory, attention, or action which are effectively human errors. Cognitive failures are an everyday occurrence and the frequency of cognitive failures increases under certain conditions such as with anxiety, depression, stress, abrupt antidepressant discontinuation and insomnia and somatic symptoms [1] [2] [3] [4].

Neurotic disorders are accompanied by specific cognitive dysfunctions, specifically attentional bias which is a heightened readiness to encode threat related information [5]. This is in contrast to depression and this disorder is related to memory bias which favors the recall of negative events. These biases occur automatically and disrupt

controlled cognitive processes and they are not under intentional control [6]. Cognitive biases play a significant role in the development of anxiety as well as depressive disorders. The proneness to the intrusion of automatic processes into ongoing conscious processing is measured by cognitive failure questionnaire.

Michiels and Cluydts [7] state that the demographic nature of the patient's sample and the presence of comorbid psychopathology, such as anxiety and /or depression were responsible for any cognitive deficits and not the illness itself. These disorders are associated with disability, memory and additional deficits [8].

Patients with known or suspected cardiac disease are likely to encounter various forms of anxiety, ranging from normal reactions to an anxiety disorder masquerading as cardiovascular disease. The researchers suggest that negative affective states, including anxiety, lead to an increased risk for cardiovascular disease, [9] [10] [11]. The phobic anxiety has been linked to sudden cardiac death and 15 researches that have evaluated a potential link between anxiety and cardiac-related death have been mixed [12] [13] [14]. Other studies found that anxiety is associated with increased cardiac mortality in patients with cardiac disease. Nearly all patients who have experienced a serious cardiac event develop 'illness-related anxiety', and some patients go on to develop panic disorder. In this study, an attempt is made to assess and compare the levels of cognitive failures in normal subjects and different anxiety patients.

## OBJECTIVES
The objectives were
   i.  To assess the levels of cognitive failures in patients with panic anxiety and phobic anxiety and normal subjects and ,
   ii. To compare the group of normal subjects with the groups of patients with panic anxiety and social anxiety.

## METHOD
**Design**: Cross sectional design was used to measure and to compare cognitive failures, panic anxiety, and social anxiety with normal subjects.

**Sample**: Thirty five the normal male subjects and thirty five male patients with panic anxiety who had had cardiovascular symptoms such as chest pain or chest discomfort, pain in arms, the left shoulder, neck, jaw, or back, shortness of breath, faster heartbeats, feeling very tired etc, and thirty five male with social anxiety were the selected for this study. The patients who came to the department of psychiatry for getting treated for anxiety disorders and normal subjects (adhoc control) who were accompanying the patients for some other disorders were served as the normal sample. The symptoms of anxiety include palpitation, headache, nausea, initial insomnia, loss of appetite, tension, lack of concentration, and forgetting, which meets the diagnostic criteria (DSM-IV) of anxiety disorders. Cognitive failure questionnaire and panic disorder scale and social anxiety inventory were administered to these three groups. Besides, demographic variables such as age, religion, income, education, and occupation were collected from the groups. Percentage, t-test were used for analyzing and interpreting the obtained data.

## Materials
   A. The Cognitive Failures Questionnaire (CFQ): [15] It measured three aspects of failures of perception/ attention, memory and action and the 25 item questionnaire was rated on 5-point Likert-rating scale, from "never" to "very often". The score for never was 'zero' and very often was 'four'. The questions were about minor mistakes that everyone made from time to time but some of which happened more often than others. The patients were instructed to answer how often these things happened in the past 6 months. The patients' responses were added up and the total scores ranged from 0 to 100.

B. Panic Disorder Severity Scale: Self-reported item scale [16] consisted of 7 items which were rated on 5-point Likerts-rating scale from none to 'zero' to extreme to 'four'. Panic anxiety as a sudden rush of fear or discomfort was accompanied by at least 4 of the symptoms which must peak within 10 minutes. Episodes like panic attacks were rapid or pounding heartbeat, chest pain or discomfort, chills or hot flushes, sweating, nausea, fear of losing control or trembling or shaking, dizziness, breathlessness, feelings of unreality, fear of dying, feeling of choking, numbness or tingling. The raw scores were converted into composite scores which ranged from zero to four.

C. Social Phobia Inventory (SPIN): The SPIN [17] was a 17-item self-rating scale for social anxiety disorder (social phobia). The scale was rated over the past week and included items assessing each of the symptom domains of social anxiety disorder (fear, avoidance, and physiologic arousal). The total scores had cut off such as none < 20, mild 21-30, moderate 31-40, severe 41-50, and very severe above 51.

**Table 1: showed the demographic variables of the male normal subjects and patients with anxiety disorders. (see table 1)**

The table 1 showed that majority of the normal subjects and the patients with panic anxiety and social phobic anxiety belonged to the age groups of 20 - 25 years (57.15%), (71.40%) and (62.90%) respectively. The normal subjects and patients belonged to Hindu religion (74.30 %), (65.70) and (80%) respectively and had the education level of 8th standard (22.80%), (31.43%) and (28.67%) respectively. The groups had 2 children (42.80%), (48.60%) and (40%) respectively. Majority of the patients with different anxiety disorders had income Rs. 2600 (42.85%) whereas the normal people had income of Rs.3500 (57.14%).

| Demographic variables | | Normal subjects | | Patients with panic anxiety | | Patients with social anxiety | |
|---|---|---|---|---|---|---|---|
| | | N | % | N | % | N | % |
| Age | 20-25 years | 20 | 57.15 | 25 | 71.40 | 22 | 62.90 |
| | 26-30 years | 15 | 42.85 | 10 | 28.60 | 13 | 37.10 |
| Religion | Hindu | 26 | 74.30 | 23 | 65.70 | 28 | 80.00 |
| | Christian | 4 | 11.50 | 5 | 14.30 | 3 | 8.60 |
| | Muslim | 5 | 14.20 | 7 | 20.00 | 4 | 11.40 |
| Income | Rs. 2500 | 9 | 25.70 | 15 | 42.85 | 15 | 42.85 |
| | Rs. 3500 | 20 | 57.14 | 14 | 40 | 14 | 40 |
| | Rs. 4500 | 3 | 8.57 | 3 | 8.60 | 6 | 17.15 |
| | Rs. > 5500 | 3 | 8.56 | 3 | 8.59 | | |

| Education | No formal edn/ | 1 | 2.86 | 0 | | 1 | 2.86 |
|---|---|---|---|---|---|---|---|
| | 5th standard | 7 | 20 | 9 | 25.77 | 9 | 26.77 |
| | 8th standard | 8 | 22.80 | 11 | 31.43 | 10 | 28.67 |
| | 10th standard | 9 | 25.77 | 8 | 22.80 | 6 | 17.45 |
| | > 10th standard | 10 | 28.57 | 7 | 20 | 8 | 22.95 |
| Occupation | Weaver- | 13 | 37.20 | 14 | 40 | 11 | 31.43 |
| | Coolie | 14 | 40 | 12 | 34.23 | 15 | 42.80 |
| | Construction worker | 8 | 22.80 | 9 | 25.77 | 9 | 25.77 |
| Number of children | 1 | 9 | 25.75 | 6 | 17.14 | 8 | 22.80 |
| | 2 | 15 | 42.80 | 17 | 48.60 | 14 | 40 |
| | 3 | 11 | 31.43 | 12 | 34.26 | 13 | 37.10 |

**Table 2: showed the scores of cognitive failures in the normal subjects and the patients with panic anxiety and social anxiety.**

| S.No | Scale | Group | statistics | | Failures in Cognition | | | | | | Total score | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | t-value | | Perception/Attention | | Memory | | Action | | | |
| | | | | N | X | SD | X | SD | X | SD | X | SD |
| 1 | CFQ | Nor | | 35 | 14.89 | 4.46 | 18.74 | 2.50 | 16.74 | 2.51 | 50.37 | 3.16 |
| | | | | | | | | | | | | |
| 2 | | Pan | | 35 | 18.09 | 2.28 | 18.08 | 4.83 | 18.57 | 4.53 | 56.74 | 3.88 |
| | | | t | | 3.95* | | 0.98 | | 2.62* | | 7.49* | |
| 3 | | So.anx | | 35 | 19.77 | 2.40 | 18.91 | 2.63 | 16.57 | 3.30 | 55.42 | 2.78 |
| | | | t | | 5.68* | | 1.64 | | 0.32 | | 7.11* | |

*P < 0.01

CFQ- Cognitive Failures Questionnaire; Nor -normal subject; Pan-panic anxiety; So.anx- social anxiety Mean and standard deviation were calculated for the two groups of sample (one normal group and two groups of anxiety disorders) to compare the significant difference between the normal subjects and the male patients. t- test was applied to determine the significance difference between them. The above table showed the normal subjects and patients with panic anxiety *P < 0.01. as well as social anxiety had significant cognitive failures (over all scores). Patients with panic anxiety had cognitive failures in perception / attention, and action. The patients with phobic anxiety disorder had significant cognitive failures perception / attention, and action. In the memory component, the groups did not differ significantly.

**Table 3: showed the level of anxiety of the male normal subjects and the patients with panic anxiety.**

| S.No | Scale | Group | N | X | SD | t- value |
|------|-------|-------|---|---|----|----------|
| 1 | Social anxiety | Normal subjects | 35 | 18.48 | 1.87 | |
| 2 | | Social Phobic anxiety | 35 | 23.42 | 1.75 | 12.64* |

*P < 0.01

The table 3 showed that the patients with panic anxiety disorder had higher a mean score. When the mean of the normal subjects was compared with panic anxiety disorder, the latter group had significant differences. The patients who had more anxiety realize their symptoms and came for treating the symptoms. Besides, their mental illness could be interfered in their social and occupational areas of functioning.

**Table 4: showed the level of anxiety of the normal subjects and the patients with social anxiety.**

| S.No | Scale | Group | N | X | SD | t- value |
|------|-------|-------|---|---|----|----------|
| 1 | Panic anxiety/severity | Normal subjects | 35 | 0.79 | 0.29 | |
| 2 | | Panic anxiety | 35 | 2.26 | 0.38 | 17.93* |

*P < 0.01

The table 4 showed that the patients with social anxiety disorder had higher a mean score. When the mean of the normal subjects was compared with social anxiety disorder, the latter group had significant differences. The patients who had more anxiety realize their symptoms and tried their level best but they could not manage it. Finally, they came for treating their symptoms. The symptoms of phobia could be treated by pharmacological and psychological means for avoiding their certain behaviors.

**RESULTS AND DISCUSSION**
When the mean of the normal subjects was compared with the groups of panic and phobic anxiety disorders, the groups of these disorders had significant differences, though anxiety disorders are more prevalent in society than expected levels. These are characterized by distorted beliefs about the seriousness of certain situations and /or internal stimuli [18]. These symptoms are often associated with other medical conditions. The patients with panic anxiety disorders had significant differences in cognitive failure such as perception / attention when compared to the normal subjects. Associated symptoms are to be addressed and treated in order to relive from the symptoms and to function effectively in social and occupational areas of functioning. The patients with phobic anxiety disorder had significant differences in cognitive failures such as perception / attention and action when compared to the normal subjects. These patients require pharmacological and psychological treatment for arresting their symptoms and leading a healthy life and reduced risk towards coronary heart diseases.

When the mean of the normal subjects was compared with the group of phobic anxiety disorder, the group of this disorder had significant difference in social anxiety which needs an effective management of their symptoms. The present finding confirms the earlier researches [19] [20] [21] [22].  The higher scores in cognitive failure could indicate greater impairment in their social and occupational areas of functioning of the patients.

**CONCLUSION**
The groups had scored higher levels of cognitive failures and differed significantly in panic anxiety and phobic disorders but the normal subjects had low level of cognitive failures. The patients with panic anxiety had

significantly in cognitive failure especially in perception / attention. The patients with social anxiety had significantly in cognitive failures especially in perception / attention and action, when compared to the normal subjects. It is inferred that if the cognitive failures are more in the patients, they get greater interferences in functioning. The present findings could help the health intervention programs to develop strategy / intervention to increase the quality of life of individuals facing distress and cognitive failures.

## REFERENCES

1. MacQueen, G.M., Galway, T.M., Hay, J., Young, L.T.,& Joffe, R.T.(2002) Recollection memory deficits in patients with major depressive disorder predicted by past depressions but not current mood state or treatment status, Psychological Medicine, 32, 251–258.
2. Houston, D.M., & Allt, S.K. (1997) Psychological distress and error making among junior house officers, British Journal of Health Psychology, 2, 141–151.
3. Mahoney, A.M., Dalby, J.T., & King, M.C. (1998) Cognitive failures and stress, Psychological Reports, 82, 1432–1434.
4. Hindmarch, I., Kimber, S., & Cockle, S.M. (2000) Abrupt and brief discontinuation of antidepressant treatment: effects on cognitive function and psychomotor performance. International Clinical Psychopharmacology, 15:302–318.
5. Eysenck, M.W. (1992) Anxiety: The cognitive perspective, Hove UK: Lawrence Eribaum.
6. MacLeod, C (1991) Clinical anxiety and the selective encoding of threatening information, International review of psychiatry, 3, 279-292.
7. Michiels, V., & Cluydts, R. (2001) Neuropsychological functioning in Chronic Fatigue Syndrome: a review. Acta Psychiatrica Scandinavica, 103:84–93.
8. Christopher, G., & MacDonald, J. (2005) The impact of clinical depression on working memory, Cognitive Neuropsychiatry, 10, 379–99.
9. Rozanski, A., Blumenthal, J.A., & Kaplan, J. (1999) Impact of psychological factors on the pathogenesis of cardiovascular disease and implications for therapy, Circulation, 99(16), 2192-2217.
10. Kawachi, I., Sparrow, D., Vokonas, P.S., & Weiss, S.T. (1994) Symptoms of anxiety and risk of coronary heart disease. The Normative Aging Study, Circulation, 90(5), 2225-2229.
11. Kawachi, I., Colditz, G.A., Ascherio, A., et al.(1994) Prospective study of phobic anxiety and risk of coronary heart disease in men, Circulation, 89(5),1992-1997.
12. Grace, S.L., Abbey, S.E., Irvine, J., Shnek, Z.M., & Stewart, D.E. (2004) Prospective examination of anxiety persistence and its relationship to cardiac symptoms and recurrent cardiac events, Psychotherapy Psychosomatics, 73(6), 344-352.
13. Lavie. C.J., & Milani, R.V. (2004) Prevalence of anxiety in coronary patients with improvement following cardiac rehabilitation and exercise training, American Journal of Cardiolology, 93(3):336-339.
14. Haines, A.P., Imeson, J.D., & Meade, T.W. (1987) Phobic anxiety and ischaemic heart disease, British Medical Journal (Clinical Research Ed), 295, 297-299.
15. Broadbent, D.E., Cooper, P.F., FitzGerald, P. & Parkes, K.R. (1982) The Cognitive Failures Questionnaire (CFQ) and its correlates, British Journal of Clinical Psychology, 21, 1-16.
16. Shear, M.K., Brown, T.A., Barlow, D.H., Money, R., Sholomskas, D.E., Woods, S.W., Gorman, J.M. & Papp, L.A. (1997) Multicenter collaborative Panic Disorder Severity Scale, American Journal of Psychiatry, 154, 1571-1575.
17. Connor, K.M., Davidson, J.R.T... Erik Churchill, L., Weisler, A.R.H. & Edna Foa. (2000) New self-rating scale Psychometric properties of the Social Phobia Inventory (SPIN), British Journal of Clinical Psychology, 176, 379-386.
18. Clark, D.M. (1999) Anxiety disorders: why they persist and how to treat them, Behavior Therapy Research, 37, S5-S27.
19. Merckelbach, H., Muris, P., Nijman, H., & de Jong, P.J. (1996) Self-reported cognitive failures and neurotic Symptomology, Personality Individual Difference, 20, 715-724.
20. Beck, A.T., Epstein, N., Brown, G., Steer, R.A. (1988) An inventory for measuring clinical anxiety: Psychometric properties, Journal of Consultation and Clinical Psychology, 56, 893-897.
21. Airasinen, E. (2006) Cognitive functions in depression and anxiety disorders: Findings from population based study, Kiarolinska institutet, Stockholm.
22. Albert, C.M, Chae, C.U., Rexrode, K.M., Manson, J.E., Kawachi, I. (2005) Phobic anxiety and risk of coronary heart disease and sudden cardiac death among women. Circulation, 111(4), 480-487.