Relationship of Depression with Personality Traits and Coping Style in Temporal Lobe Epilepsy Patients

Fatemeh Asadollahi*, Masoud Etemadifar1, Mostafa Nokani2

1MA in Clinical Psychology, Department of Psychology, Science and Research Branch, Islamic Azad University, Borujerd, Iran
2Department of Neurology, Al-Zahra Hospital, Isfahan University of Medical Sciences
3PhD, Arak University of Medical Sciences, Arak, Iran

*Corresponding Author Email: f.2014.a@chmail.ir

Abstract

Epilepsy is one of the most common neurological disorders with a prevalence in the general population is three percent. The present study was correlational type. Statistical population of present study was all epilepsy patients of Esfahan city that 120 Temporal Lobe Epilepsy patients were selected as sample study in Alzahra hospital and epilepsy department of Masih. For data collection we used standard questionnaires. NEO-Five Factor Inventory (NEO-FFI) (short form), The Coping Inventory for Stressful Situations (CISS; Endler & Parker, 1990, 1994, 1999) and The Beck Depression Inventory Second Edition (BDI-II) was used for data collection. Result showed significant relationship between depression and Neuroticism, Agreeableness, Extraversion, Emotion-oriented coping, Task oriented coping and Avoidance-oriented coping subscales. Avoidance-oriented coping has significant relationship with Neuroticism, Agreeableness and Extraversion subscales. Also, Task oriented coping showed significant relationship with Neuroticism and Agreeableness. Emotion-oriented coping has significant relationship with Neuroticism, Agreeableness, Extraversion and Openness to experience. Openness to experience has significant relationship with Neuroticism and Agreeableness. Extraversion showed significant relationship with Neuroticism and Agreeableness. Other results showed that Neuroticism, Agreeableness and Extraversion predicted 20, 33 and 41% of depression change, respectively.

Keywords: Depression, Personality Traits, Coping Style, Temporal Lobe Epilepsy Patients.

Introduction

Epilepsy is one of the most common neurological disorders with a prevalence in the general population is three percent. The term epilepsy refers to the occurred recurrent attacks resulting in a sudden electrical discharge, continuous and excessive nerve cells in the brain, and the electrical discharge between the cells also effects on the cognitive and emotional processing patients and affects the behaviour of these individuals (Victor & Ropper, 2002). This condition is usually altered level of consciousness and yet is affected on the specific movement patterns of the body (Shehata et al., 2009). A large percentage of patients with epilepsy show high rates of psychological problems symptoms compared with the general population (Gilliam, 2003). For example, mood disorders and depression are common among these patients, and the prevalence of the disorder among those is between 50 and 60 percent (Attarian, 2003; Gilliam, 2003). Psychiatric problems and issues are also high among these patients compared with the general population and also consisted in problems such as attention-deficit hyperactivity disorder, anxiety disorders and personality characteristics (Feddersen et al., 2006).

On the other hand, the occurrence of mood disorders in temporal lobe epilepsy as a whole and major depressive disorder is common, and it seems that these problems compared with other types of epilepsy are higher in temporal lobe epilepsy (Garcia, 2012). The relationship between these two disorders (epilepsy and depression) have created a source of great interest to psychiatrists and neuropsychologists, that over the years increase the amount of information about the relationship between the two issues, and this implies that the there is too many relationship among mood, cognition and brain function in patients with epilepsy of the temporal (Kondzia, 2007) that happens the depression to be more symptoms than other epilepsy are associated with temporal lobe epilepsy (Garcia, 2012). It should be noted that depression is one of the major problems in public health (Herman et al., 2000; Connor, 2003) and are considered in those with chronic diseases (eg, epilepsy) (Jones et al., 2005).
Although depression is a common psychiatric problem associated with the disease is often not diagnosed in patients with epilepsy (Cramer et al., 2003; Cowan et al., 2008). These patients may feel limits have social activities due to illness, and because these agents may experience feelings of social isolation and dependence on others, and also in terms of employment are limited (Grabowska, 2006). Risk factors for depression in patients with epilepsy, like other people, are multiple and multiple factors such as unemployment, lack of social support, cognitive and personality factors, how to deal with problems and stress-related illness and disgrace community because of the label epilepsy (Reisinger & Dilorio, 2009). On the other hand, other investigators also suggest that the cause of such problems in patients with partial seizure temporal returns to many physiological variables, cognitive and psychological, but it seems that psychological factors are involved in determining the psychological well-being of the people who take on issues such as coping strategies, but the extent of these relationships and the contribution of each of these variables with depression and other psychological problems not apparent (Goldstein et al., 2005). One of the factors associated with depression in patients with epilepsy is coping strategies and its problems arising (Goldstein et al., 2005).

Both general and specific strategies for coping mechanisms used in patients with epilepsy (Livneh, 2001). The use of coping strategies such as the adequacy of the individual's personal competence (Goldstein, 2005), tends to solve the problem (Snydr, 1990) and automated high efficiency (Goldstein, 2005) are associated better performance and reduced psychosocial aspects of depression in these patients. But Livneh et al. (2001) suggest that there are many connections between the psychological well-being and understanding of the impact of illness on the lives of people with epilepsy and that he is the determining factor in this issue. Studies show that the use of maladaptive coping strategies and emotional as avoiding issues of self-blame and wishful thinking was associated with high levels of anxiety and depression in these patients (Livneh et al., 2001; Goldstein et al., 2005). Another variable associated with depression in patients with epilepsy is personality traits or the big five personality traits (neuroticism, openness to experience, consciousness, extraversion and agreeableness) (Musechta et al., 2011). The big five has a biological and genetic basis (Abstyn, 2008), and associated with wide range of characteristics, psychological health and relationship with psychological treatments (Towell et al., 2008; Bagby et al., 2008).

The relationship between personality traits and depressed or anxious moods has been studied in several models (Beck et al. 1983; Larsen & Ketelaar, 1991; Tellegen, 1985). Among many personality traits, neuroticism was strongly related to Major Depression in terms of lifetime prevalence and severity (Duggan et al., 1990; Scott et al. 1992). However, individuals who had higher neuroticism and lower extraversion exhibited higher anxiety (Gershuny & Sher, 1992). The severity of Generalized Anxiety Disorder was positively associated with the traits of anxiety and neuroticism and was negatively associated with extraversion (Gomez & Francis, 2003).

These reports suggest that different personality traits interact with each other and that the effects are independently related to depression and anxiety. Quilty et al. (2000) investigated an association between personality dimensions from the Five-Factor Model (FFM) and treatment outcome in patients with Major Depressive Disorder. Group comparisons revealed that patients who responded to both medication and psychotherapy had lower Neuroticism, and higher Extraversion and Openness to Experience scores compared to non-responders. Regression analyses, which controlled for shared variance among the five personality domains, indicated that Neuroticism and Conscientiousness were significantly and uniquely associated with response. The two-way interactions between Neuroticism×Extraversion and Extraversion×Conscientiousness were also associated with response. These results were mostly replicated across the treatment-completer and intent-to-treat samples. Moreover, the aim of present study was to investigate the relationship of depression with personality traits and coping style in Temporal Lobe Epilepsy patients.

Methodology

The present study was correlational type. Statistical population of present study was all epilepsy patients of Esfahan city that 120 Temporal Lobe Epilepsy patients were selected as sample study in Alzahra hospital and Mash Epidemiology department. For data collection we used standard questionnaires.

Instruments

NEO-Five Factor Inventory (NEO-FFI) (short form): there are two forms of NEO-FFI, one form S for self-report and the other, form R, for observer rating. The form R starts with the third person pronoun and it is used to rate people by their spouse, peer or an expert. The form R can be used independently or as a complement for self-reports or its validity. This scale has 60 items scored from zero to four. Each item indicates one of the five big factors of personality developed by Costa and McCrae including Neuroticism (N), Extraversion (E), and Openness to experience (O), Agreeableness (A) and Conscientiousness (C). Each domain covers 12 items. In relation to validity (Costa & McCrae, 1992) reported the Cronbach's $\alpha$ between 0.68 (for agreement) to 0.86 (for neuroticism). Results of Garocci (1999) indicated that Cronbach's $\alpha$ was 0.86 for neuroticism, 0.75 for extraversion, 0.74 for openness to experience, 0.75 for agreeableness and 0.83 for conscientiousness. NEO-FFI was normalized by Garocci (1999) in Iran. The Coping Inventory for Stressful Situations (Endler & Parker, 1990, 1994, 1999) the authors developed the CISS in response to the psychometric weaknesses associated with other coping measures. The development of the inventory was based on the inter-individual or dispositional approach to coping, which conceptualizes coping styles as preferred strategies for managing a variety of stressful situations. Both rational and empirical methods guided scale development and item selection. After several modifications, the final inventory consisted of 48 items, 16 for each of its three major scales.
(task-, emotion-, and avoidance-oriented coping). Task oriented coping refers to strategies undertaken by an individual to directly manage or resolve the stressful situation.

Emotion-oriented coping refers to coping reactions that involve self-absorption, emotional distress, self-depreciation, and daydreaming. Avoidance-oriented coping involves strategies to avoid the stressful situation altogether. The avoidance scale is further broken down into two subscales: Distraction (diverting attention from the problem by turning to other activities) and Social Diversion (diverting attention from the problem by becoming involved with other people). Although Endler and Parker did not intend for the Social Diversion subscale to measure social support, scores on this scale were moderately correlated with an index of social support. Examinees respond to each item using a five-point Likert scale that ranges from 1 (Not at All) to 5 (Very Much). Raw scale scores can be converted to linear T scores, allowing comparisons by gender and psychiatric status (normal vs. inpatients). In our study, we converted participants’ raw scores to T scores using the normal population tables by gender. The CISS possesses adequate reliability and validity.

The CISS has been shown to possess a clear factor structure across various samples. In addition, the CISS scales have been found to be internally consistent, and scale scores have been demonstrated to be relatively stable over time. In our sample, the internally consistency (coefficient a) of Task, Emotion, and Avoidance-oriented coping was found to be 0.90, 0.90, and 0.78, respectively. Convergent and discriminant validity for the CISS have been evaluated by comparing the CISS to other coping inventories, personality inventories, and measures of psychopathology. Specifically, the CISS has been compared to the Ways of Coping Questionnaire, Beck Depression Inventory, MMPI-2, and the Eysenck Personality Inventory, among others. In general, the relationships between these other measures and the CISS were in the expected directions. For example, the CISS scales were reasonably associated with the corresponding scales on the Ways of Coping Questionnaire.

The CISS Emotion-oriented scale has been found to be positively associated with neuroticism, somatization, and various measures of psychopathology, such as the MMPI-2 content scales; on the other hand, Task oriented coping and Social Diversion have exhibited negative to negligible correlations with psychopathology. The interested reader is referred to the most recent CISS manual (Endler & Parker, 1999) for more information about the inventory psychometric properties. The Beck Depression Inventory Second Edition (BDI-II); is a 21-item self-report instrument intended to assess the existence and severity of symptoms of depression as listed in the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders Fourth Edition (DSM-IV; 1994).

Each of the 21 items corresponding to a symptom of depression is summed to give a single score for the BDI-II. There is a four-point scale for each item ranging from 0 to 3. On two items (16 and 18) there are seven options to indicate either an increase or decrease of appetite and sleep. Cut score guidelines for the BDI-II are given with the recommendation that thresholds be adjusted based on the characteristics of the sample, and the purpose for use of the BDI-II. Total score of 0-13 is considered minimal range, 14-19 is mild, 20-28 is moderate, and 29-63 is severe. With regard to construct validity, the convergent validity of the BDI-II was assessed by administration of the BDI-1A and the BDI-II to two sub-samples of outpatients (N=191). The order of presentation was counterbalanced and at least one other measure was administered between these two versions of the BDI, yielding a correlation of .93 (p<.001) and means of 18.92 (SD = 11.32) and 21.98 (SD = 12.69) the mean BDI-II score being 2.96 points higher than the BDI-1A. A calibration study of the two scales was also conducted, and these results are available in the BDI-II manual.

**Result**

Result showed significant relationship between depression and Neuroticism, Agreeableness, Extraversion, Emotion-oriented coping, Task oriented coping and Avoidance-oriented coping subscales (Table 1). Avoidance-oriented coping has significant relationship with Neuroticism, Agreeableness and Extraversion subscales. Also, Task oriented coping showed significant relationship with Neuroticism and Agreeableness. Emotion-oriented coping has significant relationship with Neuroticism, Agreeableness, Extraversion and Openness to experience. Openness to experience has significant relationship with Neuroticism and Agreeableness. Extraversion showed significant relationship with Neuroticism and Agreeableness (Table 1).

Table 1. Relationship between depression and other subscales in epilepsy patients.

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neuroticism</td>
<td>0.45**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agreeableness</td>
<td>-0.28**</td>
<td>0.068</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consciousness</td>
<td>0.026</td>
<td>0.041</td>
<td>0.05</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>-0.21**</td>
<td>0.12</td>
<td>0.48**</td>
<td>0.03</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Openness to experience</td>
<td>0.059</td>
<td>-0.12</td>
<td>-0.11**</td>
<td>-0.10</td>
<td>-0.004</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotion-oriented coping</td>
<td>0.38**</td>
<td>0.83**</td>
<td>0.26**</td>
<td>0.01</td>
<td>0.3**</td>
<td>-0.16*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Task oriented coping</td>
<td>-0.14*</td>
<td>-0.14*</td>
<td>0.15**</td>
<td>0.05</td>
<td>-0.04</td>
<td>-0.08</td>
<td>-0.12*</td>
<td>1</td>
</tr>
<tr>
<td>Avoidance-oriented coping</td>
<td>-0.17**</td>
<td>-0.12*</td>
<td>0.16**</td>
<td>-0.09</td>
<td>0.15**</td>
<td>-0.02</td>
<td>0.01</td>
<td>-0.09</td>
</tr>
</tbody>
</table>
In 1st step, Neuroticism entered to equation and predicted 20 percent of depression changes in patients. Agreeableness can predict the 33% of change in depression score and Emotion-oriented coping and Extraversion prediction 39 and 41% of changes in depression score of epilepsy patients (Table 2).

Table 2. Stepwise regression for depression prediction based on variables in epilepsy patients.

<table>
<thead>
<tr>
<th>Step</th>
<th>Variables</th>
<th>R²</th>
<th>Adjusted R</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Neuroticism</td>
<td>0.2</td>
<td>0.2</td>
<td>10.29</td>
</tr>
<tr>
<td>2</td>
<td>Agreeableness</td>
<td>0.33</td>
<td>0.33</td>
<td>9.50</td>
</tr>
<tr>
<td>3</td>
<td>Emotion-oriented coping</td>
<td>0.39</td>
<td>0.39</td>
<td>9.37</td>
</tr>
<tr>
<td>4</td>
<td>Extraversion</td>
<td>0.41</td>
<td>0.4</td>
<td>8.93</td>
</tr>
</tbody>
</table>

Discussion and Conclusion

Our findings showed that Emotion-oriented coping, Task oriented coping and Avoidance-oriented coping subscales has significant relationship with depression in epilepsy patients. Goldstein et al (2005) and Lyoneh et al (2001) showed similar results in their studies. One of the factors associated with depression in patients with epilepsy is coping strategies and its problems arising (Goldstein et al., 2005). Both general and specific strategies for coping mechanisms used in patients with epilepsy (Livneh, 2001). The use of coping strategies such as the adequacy of the individual's personal competence (Goldstein, 2005), tends to solve the problem (Snydr, 1990) and automated high efficiency (Goldstein, 2005) are associated better performance and reduced psychosocial aspects of depression in these patients. Other results showed that Neuroticism, Agreeableness and Extraversion predicted 20, 33 and 41% of depression change, respectively. Akiskal et al (2006) studied the distinct temperament profiles of bipolar I, bipolar II and unipolar patients.

Of the 436 personality items, 103 that significantly distinguished the three patient groups were subjected to principal components analysis, yielding four factors which reflect the temperamental dimensions of “Mood Lability”, “Energy-Assertiveness,” “Sensitivity-Brooding,” and “Social Anxiety.” Most BP-I described themselves as near normal in emotional stability and extroversion; BP-II emerged as labile in mood, energetic and assertive, yet sensitive and brooding; MDD were socially timid, sensitive and brooding. Gender and age did not have marked influence on these overall profiles. Within the MDD group, those with baseline dysthymia were the most pathological (i.e., high in neuroticism, insecurity and introversion). Selected GBI items measuring hypomania and biphasic mood changes were endorsed significantly more often by BP-II. Finally, it is relevant to highlight a methodological finding about the precision these derived temperament factors brought to the UP–BP differentiation. Unlike BP-I who were low on neuroticism, both BP-II and UP scored high on this measure; yet, in the case of BP-II high neuroticism was largely due to mood lability, in UP it reflected subdepressive traits.

Murray et al (2009) investigated personality and the predisposition(s) to bipolar disorder: heuristic benefits of a two-dimensional model. A good-fitting model (normed chi2 = 0.60, significance of chi2 = 0.73) was identified in which T-Depression was determined solely by neuroticism, while T-Mania was determined by extraversion and (negative) agreeableness. The pathway from T-Depression to T-Mania was also significant (standardized regression weight = 0.80), with a weaker significant reciprocal path (coefficient = 0.27). A model in which bipolar vulnerability was represented as a single dimension (T-Bipolarity) also provided a good fit to the data, but provided less heuristic power. Predisposition to BD can be usefully understood in terms of two reciprocally related dimensions of vulnerability (T-Depression and T-Mania), which can be separated on the basis of their personality correlates. Quilty et al (2009) examine the personality predictors of bipolar disorder symptoms, conceptualized as one-dimensional (bipolarity) or two-dimensional (mania and depression).

A model in which bipolar symptoms were represented as a single dimension provided a good fit to the data. This dimension was predicted by Neuroticism and (negative) Agreeableness. A model in which bipolar symptoms were represented as two separate dimensions of mania and depression also provided a good fit to the data. Depression was associated with Neuroticism and (negative) Extraversion, whereas mania was associated with Neuroticism, Extraversion and (negative) Agreeableness. Symptoms of bipolar disorder can be usefully understood in terms of two dimensions of mania and depression, which have distinct personality correlates. Moschetta et al (2011) study a group of patients with JME and quantitatively measure personality traits. Patients with JME obtained significantly higher scores on Novelty Seeking (P = 0.001) and Harm Avoidance (P = 0.002) and significantly lower scores on Self-Directedness (P = 0.001). Patients with JME have a higher expression of impulsive personality traits that demand early recognition to avoid further consequences and facilitate social insertion, consequently avoiding future stigma. Range of study is limited, and this creates limits for the generalizability of the results to the entire community. Due to the design of this study was correlational, not to make causal inference from it. Suggested that expanded range of samples use to Subsequent research that have a greater ability to generalize the results. The demographic variables include socioeconomic status; age and duration of marriage are specifically included in the model and measured their effects on the variables.

Reference


