

# Positive and Negative Affects and Coping Strategies in Patients with Psychogenic Non-Epileptic Seizure, Temporal Lobe Epilepsy and Control Groups

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## ABSTRACT

To examine positive/negative affects and coping strategies in patients with psychogenic non-epileptic seizure, temporal lobe epilepsy and in control group. 33 patients diagnosed with psychogenic non-epileptic seizure and 33 patients with temporal lobe epilepsy (after being diagnosed with psychogenic non-epileptic seizure and temporal lobe epilepsy) were selected according to the criteria of inclusion and exclusion in the study. At the end, 33 non-patients were selected from non-neurological and non-psychiatric clinics as control group and were compared with the two groups diagnosed with psychogenic non-epileptic seizure and temporal lobe epilepsy. Data were collected via positive Affect and Negative Affect Scale (PANAS) of Watson, Clark & Tellegen and Lazarus' Ways of Coping Questionnaire (WCQ). Multivariate analysis of variance (MANOVA) was used for data analysis. The test showed a significant difference in items of positive/negative affects and coping strategies of patients with psychogenic non-epileptic seizure and those with temporal lobe epilepsy and the control group ( $p < 0.05$ ). Patients with temporal lobe epilepsy and psychogenic non-epileptic seizure compared to the control groups obtained higher scores on subscales of negative emotions. That is, the two groups compared to control group experience more negative emotions. The positive emotions in both groups compared to the control groups were in the lower levels. With regard to coping strategies, patients with psychogenic non-epileptic seizure compared to patients with temporal lobe epilepsy and control groups, had less active and problem-focused mechanisms when faced with difficulties and problems. In other words, when faced with problems, they use "escape-avoidance" mechanism rather than planning or any planful problem solving strategies.

**Keywords:** psychogenic non-epileptic seizure, temporal lobe epilepsy, positive/negative affect, coping strategies.

## INTRODUCTION

Psychogenic non-epileptic seizures (PNES) are paroxysmal changes in behavior characterized by sudden changes in movement, feelings and experiences. These attacks are similar to epileptic seizures, but occur in the context of

normal electroencephalographic (EEG) waves<sup>1, 2, 3</sup>. A variety of names were proposed for this disorder which follows:

- Non epileptic seizures (NES)
- Non epileptic attack disorder (NEAD)
- Psychogenic non-epileptic seizures (PNES)

Pseudo epileptic attack disorder (PEAD)

Pseudo-seizures psychogenic pseudo-seizures (PPS)

Psychogenic seizures dissociative episodes

### Functional seizure

This disorder is also known as “*pseudo-seizure*”<sup>4</sup>. The term “*pseudo seizure*” was used for epileptic behaviors that had no organic basis. It is also known as hysterical epilepsy, psychogenic epilepsy, pseudo-epileptic seizure, non-epileptic pseudo seizure, and non-epileptic attack disorder (5). In “Diagnostic and Statistical manual of mental disorder”<sup>6</sup> it was categorized under somatoform disorders as a conversion disorder, and in ICD-10 falls into category of dissociative disorders<sup>7</sup>. Research has shown that 20 percent of patients who have been admitted to epilepsy centers as well as 5% of outpatient in such centers are suffering from psychogenic non epileptic seizure disorder<sup>8</sup>. Epilepsy is a serious disease which is known to occur in more than one percent of the population, and in 5% of patients with epilepsy, seizures can be found. Approximately 5-20% of patients with epilepsy are also diagnosed with psychogenic non-epileptic seizure<sup>9</sup>. Research shows that psychogenic non-epileptic seizures occur differently indifferent ages and genders. Women are more likely than men to be diagnosed with seizures, and male to female ratio of 1:4 has been reported. Many of these patients experience psychogenic non-epileptic seizure before age 40. This seizure has a high incidence among adolescents and children<sup>5</sup>. To the extent that about 2-33 per 100,000 people are estimated to be diagnosed with the disorder<sup>10</sup>. The incidence of *PNES* in people with a history of neurological diseases and seizures has been reported to be in higher levels<sup>8</sup>. Research shows that physical and sexual abuse in these patients is very high, as 88% of these patients have experienced trauma and psychological problems; And in 80% of patients, physical and sexual abuse were common. 97% of women and 40% of men were reported to be prone to physical and sexual abuse. About 69 percent of patients reported the *PNES* in connection with the abuses. However, only 9.3 to 8.6% of these abuses have been reported in patients with epilepsy<sup>11, 12</sup>. In 32% of 9-18 year old children with *PNES*, a history of sexual abuses have been reported. In 44% of

children with *PNES*, there are severe familial stresses<sup>13</sup>. In these patients there is a significant emotional disorder and lack of regulation which make the patients more vulnerable to *PNES* and the higher levels of anxiety and depression. The General neurotic syndrome, a combination of high levels of excitation and anxiety and poor coping strategies, is found in these patients<sup>11, 14</sup>. Many of these patients with *PNES* suffer other psychiatric disorder in axis I, the most common diagnoses include somatoform disorders, dissociative disorders, mood disorders, anxiety or post-traumatic stress disorder. A number of patients with *PNES* have organic brain disorder. Approximately 10-50% of patients with *PNES* deal with real seizures. Some studies suggest there is a relationship between the injuries to head and *PNES*. After epilepsy surgeries, or other neurological measures, *PNES* are often seen<sup>15</sup>. There is a high rate of depression, anxiety and panic attacks in patients with *PNES*. Depression is the most common psychiatric disorders in patients with *PNES* and suicide attempt rate is very high among these patients. Most often, their axis II shows cluster C disorders<sup>15, 16</sup>. Generally, at psychological evaluations these patients, compared to individuals suffering from epilepsy, demonstrate higher psychiatric and psychological symptoms and experience more difficulties and family issues. Studies show that these patients had greater exposure to stressful life events, and used inefficient ways to manage stresses and crises that they are faced with. In dealing with stress, they use emotion-focused defense mechanisms such as avoidance, emotional distancing, and resignation<sup>17, 18, and 19</sup>. Patients using emotion-focused mechanisms such as wishing, denial and avoidance have poor performance in adjustment to the disorder. In contrast, patients using problem-focused mechanisms show better performance in adjusting to the disorder<sup>20</sup>. Improvement or recurrence of the condition depends on the atmosphere and emotional mood of patients and their families<sup>21</sup>. Negative experiences and psychological maladjustment in families of these patients have been reported to be in a higher degree, and these families had more health problems, stress and criticism<sup>22, 23</sup>. Diagnosis of *PNES* disorder is very important and if it is not diagnosed correctly, it will lead to inappropriate use of anti-epileptic and anti-depressants in these

patients and will cause a lot of side-effects and costs for these patients. Even, they might also be classified as refractory epilepsy patients whose long-term prognosis are poor(1).In general, considering the capacity of the patients and the underlying disorder treatment, an effective treatment should be applied in accordance with the patients' conditions. To know the psychological factors effective in the emergence and persistence of psychogenic non-epileptic seizures plays a significant role in the selection and administering an effective treatment. Therefore, in this study we make a comparison between positive and negative emotions and coping strategies of the patients with psychogenic non-epileptic seizure and patients with temporal lobe epilepsy (TLE) and the control group.

## MATERIALS AND METHODS

Of all the people who complained of epileptic seizures and were admitted to the clinic of Imam Reza (PBUH), 33 patients diagnosed with TEMPORAL LOBE EPILEPSY and 33 patients diagnosed with PNES were selected. They were selected only if physician had diagnosed them with PNES or temporal lobe epilepsy. Moreover, 33 non-patients were selected as control group and completed the questionnaires.

### Positive Affect and negative affective scale (PANAS)

Positive Affect and Negative Affect Scale (PANAS) of Watson, Clark & Tellegen was designed in 1988. This test is used to assess the mental state of the participants in a given time, and is composed of twenty words. Each word describes different affects and feelings. Participants score each word in a five-item Likert scale from "strongly disagree" to "strongly agree". Cronbach's alpha coefficients were 84% to 97%. Validity of positive affect and negative affect respectively were 77% and 83% (24).

### Lazarus' Ways of Coping Questionnaire (WCQ)

Lazarus' ways of coping questionnaire (WOCQ) was first developed in 1980 by Lazarus and Folkman, and it was revised in 1985. Coping strategies are a set of cognitive and behavioral efforts to interpret and modify a stressful situation, and lead to reduction of its sufferings. The scale

evaluates a wide range of thoughts and actions that people take in internal or external stressful encounters. The questionnaire consists of 66 items that evaluate Confrontation Coping, Distancing, Self-Controlling, Seeking Social Support, Accepting Responsibility, Escape-Avoidance, Planful Problem Solving, and Positive Reappraisal. Cronbach's alpha coefficient for subscales was between 61% - 79% and its validity was reported to be 0.59-0.83<sup>25</sup>.

In the first step, the participants' demographic characteristics including age, gender, education and age at onset of the first seizure were investigated. Table 1 shows statistical details of the analysis. Findings of this table shows that the group suffering from PNES, the group with temporal lobe epilepsy and the control group relatively match with regard to mean age. Sex ratio of females to males in the group of patients with PNES was greater than both control group and the group with temporal lobe epilepsy. The control group and patients with temporal lobe epilepsy compared to patients with PNES had higher levels of education. The mean age at the onset of the first seizure in the patients with PNES compared to patients with temporal lobe epilepsy is lower.

As Table-2 shows, patients with temporal lobe epilepsy and PNES compared to control group had lower scores in subscale of positive emotions. These two groups, compared to control group, had higher scores in subscale of negative emotions.

According to research findings, people with PNES and temporal lobe epilepsy, compared to control group had higher scores in subscales of "Escape-Avoidance" and "distancing". These two groups compared to control group, had lower scores in the subscales of "positive reappraisal, planful problem solving, accepting responsibility, self-controlling, confrontation coping".

Table-4 suggests that there is a significant difference in the variables of positive and negative emotions between the groups suffering from PNES, temporal lobe epilepsy and the control group ( $p < 0.0001$ ).

As Table-5 shows, there is a significant difference between positive and negative emotions

and coping skills in the groups suffering from PNES, temporal lobe epilepsy and the control group ( $p < 0.05$ ).

Table 6 shows that in the subscales of positive and negative emotions, confrontation coping, distancing, self-controlling, seeking social support, accepting responsibility, escape-avoidance, planful problem solving, and positive reappraisal, there is a significant difference between "control and PNE groups" and "control and temporal lobe epilepsy group" ( $P < 0.05$ ). As the

table shows, in subscale of seeking social support there is a significant difference between the control group and PNES group. However, no significant difference was found between the control group and group with temporal lobe epilepsy in this subscale.

## DISCUSSION AND CONCLUSION

The main objective of this study was to examine the positive/negative emotions and coping skills in control group and individuals suffering from PNES, temporal lobe epilepsy. The results showed

**Table 1: Demographic characteristics of the participants**

	TLE	PNES	Control group
N	33	33	33
Age	35.67	39.90	36.65
Sex (F:M)	9:21	22:8	12:18
Education			
Primary & Guidance school (%)	5(13.13)	21(66.6)	12(36.6)
High school (%)	9(26.6)	7(20)	8(23.3)
College education	19(60)	5(13.3)	13(40)
Age at onset of seizure	30.47	19.48	-

**Table 2: Descriptive statistics for positive affect and negative affect in each group**

	TLE		PNES		Control group	
	Mean	SD	Mean	SD	Mean	SD
Positive affect (emotions)	35.60	4.19	22.66	3.11	23.40	3.78
Negative affect(emotions)	16.83	2.33	41.10	4.38	39.3	3.51

**Table 3: Descriptive statistics of coping strategies in each group**

	TLE		PNES		Control group	
	Mean	SD	Mean	SD	Mean	SD
Confrontation Coping	6.30	2.11	7.20	2.99	8.56	2.84
Distancing	8.10	3.03	9.20	3.51	7.43	2.68
self -controlling	11.40	3.05	10.20	2.96	13.60	3.37
seeking social support	10.10	3.56	10.00	4.04	12.00	2.81
accepting responsibility	6.10	2.13	6.96	2.23	8.16	1.7
Escape-Avoidance	7.10	2.83	10.28	3.00	6.22	2.10
Planful Problem Solving	8.50	2.62	8.73	3.03	10.63	2.65
positive reappraisal	6.30	2.11	7.20	2.99	8.56	2.84

**Table 4: Wilks' Lambda statistical index for positive/negative emotions and coping skills in the groups**

	F	P	Wilks' Lambda
Groups	1.52	0.0001	0.006

that people with PNES and temporal lobe epilepsy compared to controls experience more negative emotions. The ratio of positive emotions in both groups compared to control group is at lower levels. Favorable experiences and events are stimulated positive emotions, and unfavorable experiences and events stimulate negative emotions. People with PNES are likely to experience more stressful

**Table 5: Results of multivariate analysis of variance of positive/negative emotions and coping skills in the groups**

StatisticsVariables	SS	MS	DF	F	P
Negative emotions	10968.62	5484.31	2	44460	.000
Positive emotions	3166.48	1583.24	2	114.11	.000
Confrontation Coping	25.4	12.74	2	1.77	.017
Distancing	47.75	23.87	2	2.48	.039
self -controlling	178.40	89.20	2	9.05	.000
seeking social support	78.20	38.10	2	3.09	.000
accepting responsibility	64.62	32.31	2	7.68	.001
Escape-Avoidance	224.82	112.41	2	9.007	.008
Planful problem solving	82.15	41.07	2	5.31	.007
positive reappraisal	176.38	88.19	2	9.01	.000

**Table 6: Post hoc test for comparative analysis of the groups**

			Means	Difference	p
Negative emotions	control group	PNES group	12.20		.000
		TLE group	.733		.000
Positive emotions	control group	PNES group	24.26		.000
		TLE group	22.46		000.
Confrontation Coping	control group	PNES group	1.2		054.
		TLE group	.771		021.
Distancing	control group	PNES group	1.10		.035
		TLE group	1.76		.045
self - controlling	control group	PNES group	3.40		000.
		TLE group	2.20		022.
seeking social support	control group	PNES group	2		05.
		TLE group	1.90		076.
accepting responsibility	control group	PNES group	.866		001.
		TLE group	1.20		05.
Escape-Avoidance	control group	PNES group	3.60		000.
		TLE group	3.03		004.
Planful problem solving	control group	PNES group	1.90		.026
		TLE group	2.13		.01
positive reappraisal	control group	PNES group	3.40		.000
		TLE group	2.20		.022

and unpleasant events and this is consistent with research conducted by Tojek *et al* (2000) on stress and other psychological characteristics of patients with PNES (26). This study showed that patients with PNES experience many unpleasant emotions and stressful events in their lives. The findings of the current study are consistent with Philippal *et al* (27). Parshall *et al.* (1993) investigated the expression of emotion (EE) in patients with PNES and epilepsy and found that these patients suffer from more negative emotions and this confirms the findings of the current study (21). However, research also suggests that these patients do not experience more negative emotions and stressful events than non-patients. Marctesta *et al* (2000) noted that these patients evaluate and report their life to be more turbulent and stressful than others. In addition, this study also showed that people with PNES and epilepsy use ineffective ways to deal with problems to the extent that they more often use "distancing and avoidance" in dealing with their problems and show less responsibility and try to deal with the problems through distancing. People Suffering from PNES and epilepsy when faced with problems; use more "Escape -Avoidance" mechanism than non-patients. Compared to non-patients, they use less

planful program solving strategies to tackle their problems. People with PNES and epilepsy seek social support less than other people do. The findings of the study are consistent with Marctesta *et al* (2000). Marctesta (2012) in another research on stressful events and coping strategies in patients with PNES showed that these patients when faced with the problems use less active and problem-focused mechanisms. In other words, these patients use planning and problem solving strategies less than non-patients, and are more likely to use "Escape -Avoidance" mechanisms. Moreover, patients suffering from seizures employ "denial and wishing" more than the control group (17). The findings of the present study are in consistent with findings of Patrica *et al* (2012) on avoidance tendencies in patients with PNES (18). Meierkord *et al* (1991) conducted a research on the clinical features and prognosis of patients with PNES. Their study confirms our findings on coping strategies of the patients (20). The findings of the current study are consistent with Marquez (2004) and Cragar (2005). This research showed that these patients when faced with problems, use denial and distancing rather than confrontation coping and planful problem solving (28, 29).

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