Comorbidity with Depression and Anxiety among Patients with Epilepsy inQena Governorate

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ABSTRACT

INTRODUCTION & AIM OF THE WORK :

Depression and anxiety are common psychiatric comorbidities of epilepsy. This work aimed to assess the relationship between psychological disorders (depression and anxiety) and epilepsy and to explore the different factors involved in such relationship.

SUBJECTS AND METHODS:

We studied **100** patients with epilepsy in the neuropsychiatry department in Qena South Valley University Hospital for comorbid depression and anxiety. Hamilton questionnaire for depression and anxiety (**HAMD** and **HAMA**), EEG and brain Imaging were carried out..

RESULTS:

Demographic data of the studied population show that the mean ± **SD** of age is **25.08±13.81,** male **(64%),** age of onset of epilepsy **(19.18± 12.597),** duration of treatment **(4.82± 4.546).** HAMD score **(9.31±5.74),** HAMA **score (13.80±7.16).** Depression was diagnosed in **48%** and anxiety in **36%** of patients. *Among epileptic patients with depression or anxiety, no significant relation was detected regarding age, sex, educational level, age of onset nor duration of illness* Depression was more in those with postictal drowsiness and GTC type of seizures.

CONCLUSION:

Depression and anxiety are common but underestimated epilepsy comorbidities.

INTRODUCTION

Epilepsy co-morbidities represent an added burden that should be considered and included in the strategy of treatment for such group of patients. Cognitive impairment and neuropsychiatric conditions are among such comorbidities ***(Hamiwka LD et al., 2009).*** These comorbidities affect the patient's quality of life and psychosocial outcome***(Sillanpaa M et al.,2009, Haneef Z et al.,2010).***

Lambert diagnosed interictal depressive disorders in9 and **55%** of epileptic patients (**Lambert et al., 1999)**. A reciprocal relationship and shared pathogenesis may considered between epilepsy and and depression **(Kanner et al., 2002 and Hesdorffer et al, 2006).**Miller JM had attributed depressive symptoms in epilepsy to the endocrine and/or metabolic effects of seizures (Miller JM, et al., **2008).**

Various clinical factors such as seizure frequency, seizure type, duration of illness, age at onset, received antiepileptic drugsand psychological factors such as quality of life, employment, environmental stressors**(Titlic et al., 2009),** unpredictability of seizures, social isolation and epilepsy's stigma**(Barbara Błaszczyka.. StanisławJ.Czuczwar, 2016)**may be involved in the relationship between epilepsy and depression.

Anxiety disorders among epileptic patients were also significantly and frequently diagnosed in many studies. ***Kanner****diagnosed anxiety disorders in* 49 patients out of **188** patients **(49%),** most of them had generalized anxietydisorder (GAD), social phobia and agoraphobia ***(Kanner et al.,2009).***

AIM OF THE WORK:

The present study aimed to assess the relationship between epilepsy and psychological disorders (depression and anxiety) and factors that influence such relationship.

PATIENTS AND METHODS:

PATIENTS:

We examined **100** patients, 64 males and **36** females, with idiopathic epilepsy, aged between **18- 50**, who are seizure free in last **12** months, collected from the outpatient clinic of Qena University Hospital. Patients with severe medical illness, drug or alcohol abuse, and inability to respond to questionnaires were excluded from the study.

ETHICAL CONSIDERATIONS:

A written consent was taken from all patients who participated in the study according to the ethics committee of South Valley University. Data collected from the persons who participated in the study are confidential.

METHODS:

All subjects underwent clinical psychiatric examination including Hamilton questionnaire for Depression **(HAM-D),** Hamilton questionnaire for anxiety **(HAM-A),** Electroencephalography **(EEG)** and brain imaging.

RESULTS

a) Comorbid depressive and anxiety disorders:

Depressive disorders (clinically presented and according to **DSM-V** diagnostic criteria) affected **48 (48%)** of all evaluated patients. It was mild **(8 - 13 points)** in **20 (20%)** patients, moderate (**14-18** points)in **20 (20%)** patients, severe (**19 - 22** points) in **6(6%)** patients and very severe **(> 23** points) in **2 (2%)** patients. **(Fig. 1).**

Anxiety disorders (clinically presented and according to **DSM-V** diagnostic criteria) affected **63 (63%)** of all evaluated patients. It was mild in **27 (27%)** patients, moderate in **31 (31%)** patients, severe in **5(5%)** patients based on HAM-A scores **(Fig. 2).**

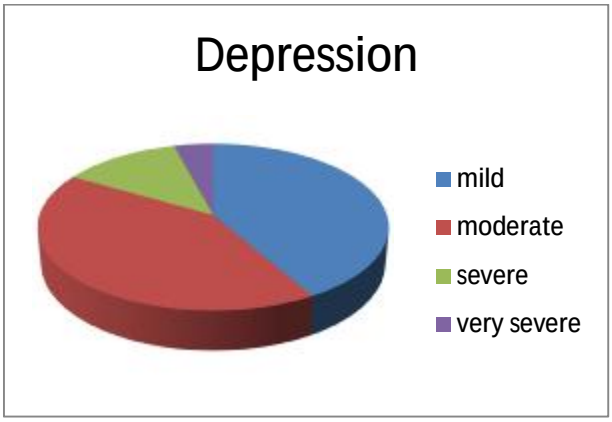

Fig. 1 Severity of the comorbid depressive disorders (HAM-D score)

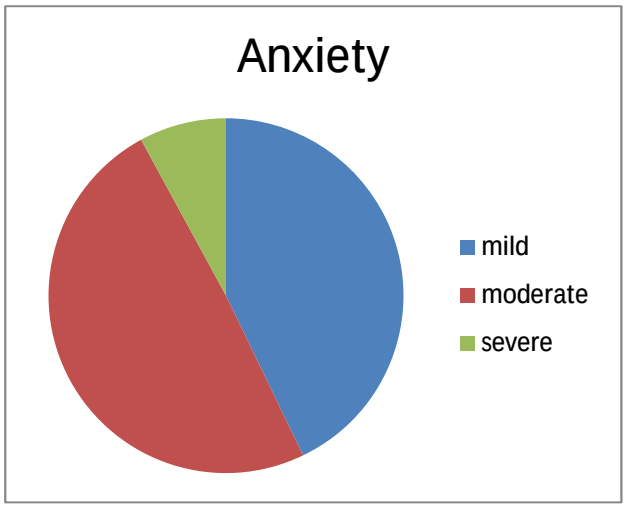

Fig. 2 Severity of the comorbid anxietydisorders(HAM-A score).

b) Demographic and clinical determinants:

Among all epileptic patients with depression or anxiety, no significant relation was detected regarding age, sex, educational level, age of onset nor duration of illness (table 1).

Table (1) Relation to demographic data and duration of illness based on HAM-D and HAM-A scores.

	Without depression	*With depression*	P-value	Without anxiety	With anxiety	P-value
Age	24.06 ±13.76	*26.19±13.91*	0.444	26.95±14.16	23.98±13.591	0.303
age of onset	18.09 ±11.93	*20.35±13.30*	0.371	21.28±12.73	17.94±12.448	0.201
Duration of illness	4.51± 4.57	*5.17 ±4.53*	0.473	4.55±5.33	4.98±4.050	0.650
Sex						
Male	34(53%)	30(47%)	0.765	21(33%)	43(67%)	0.250
Female	18(50%)	18(50%)		16(45%)	20(55%)	
Education						
less than 3 y education	2(67%)	1(33%)	0.229	2(67%)	1(33%)	0.712
from 4 -7y education	22(65%)	12(35%)		11(32%)	23(68%)	
8- 11 y education	7(37%)	12(63%)		7(37%)	12(63%)	
12 - 15 education	15(44%)	19(56%)		12(35%)	22(65%)	
more than 16 y education	6(60%)	4(40%)		5(50%)	5(50%)	

Regarding the etiology of epilepsy and post ictal manifestations and its relation to depression and anxiety, There was a significant relation between depression and post ictal drowsiness (P-value 0.034), however non significant correlations were found with other parameters ***(table 2).***

Table (2) Relation to etiology of epilepsy and post ictal manifestations based on HAM-D and HAM-A scores.

	Without depression	*With depression*	P -value	with anxiety	Without anxiety	P-value
Idiopathic epilepsy	44(52%)	*40 (48%)*	0.932	28(33%)	56(67%)	0.137
symptomatic epilepsy	9(56%)	*7(44%)*	0.712	9(56%)	7(44%)	0.083
postictal headache	*12(%41.4)*	*17 (%58.6)*	0.196	13(44.8%)	16(55.2%)	0.262
postictal fatigue	*11(%50)*	*11 (%50)*	0.873	9(40.9%)	13(59.1%)	0.617
postictal drwasnes	*9(%34.6)*	*17 (%65.4)*	0.034	10(38.5%)	16(61.5%)	0.894
postictal vertigo	*7(%50)*	*7(%50)*	0.872	4(28.6%)	10(71.4%)	0.483
post ictial autonomic symptoms	*7(%63.6)*	*4(%36.4)*	0.436	4(36.4%)	7(63.6%)	0.942

Among epileptic patients with depression, higher rates were associated with those who had GTC seizures while no significant correlation to frequency of seizures(table 3).

Table (3) correlation of comorbid depression and anxiety to the type of seizure.

	No of patients	*Without depression*	*With depression*	P -value	with anxiety	Without anxiety	P-value
GTC	64(64%)	16(25%)	*48(75%)*	0.034	*39(61%)*	25(39%)	0.083
Tonic	5(5%)	3(60%)	*2(40%)*	0.712	*4(80%)*	1(20%)	0.262
Myclonic	5(5%)	3(60%)	*2(40%)*	0.196	*4(80%)*	1(20%)	0.436
complex partial	4(4%)	0	*4(100%)*	0.873	*4(100%)*	0	0.483
simple partial	9(9%)	4(44%)	*5(56%)*	.,923	*7(78%)*	2(22%)	.,647
Absence	2(2%)	1(50%)	*1(50%)*	0.872	*0*	2(100%)	0.196
focal with secondary generalization	11(9%)	5(45,4%)	*6(54,5%)*	0.436	*4(45%)*	5(55%)	.,298

DISCUSSION

The results of the present study confirm the hypothesis that patients with epilepsy are at high risk of depression. A shared pathogenesis may be present. Our data is in consistency with ***d'souza et al., (2006), Hesdorffer et al., (2006)*** and***Kimiskids et al., (2007)***and who reported a significant relationship between depression and epilepsy. Miller diagnosed depression in up to **80%** of patients with epilepsy ***Miller JM et al., (2008)***.

Barbara Błaszczyk reported that **4–5** higher rate of depression and suicide was displayed by epileptic patients relative to healthy people**(Barbara Błaszczyk[a]. . StanisławJ.Czuczwar' 2016).**

Unlike our results, PanagiotisZisa, reported that female gender raised the risk of depression **19.68**-folds (p = **0.001**); unemployment **6.46**-folds (p = **0.028**), and each extra seizure per month a **1.38**-fold (p = **0.031**) and considered them as determinants of depression**(PanagiotisZisa, et al., 2014).**

Similarly, Robert Dias reported that prevalence of Major depression in patients with uncontrolled seizures was double that of patients with controlled seizures **(Robert Dias, et al., 2010).**

In consistence with our results, in a community based study in U.K., ***Baker*** *reported a significant association between* epilepsy and anxiety disorders (***Baker et al., 2000)***. Similarly, ***d'souza,*** *in his study conducted*in brazil, reported a significant correlation between anxiety and epilepsy (P-value =**0.014**) (***d'souza et al., 2006)*** and ***taylor,*** *in his study conducted*in USA, reached the same result of significant correlation (P-value **=0.001**) (***taylor et al., 2011)***.

CONCLUSION:

Psychiatric co morbidity of epilepsy frequently represents a major problem that necessitate a special concern and deserve focusing in the strategy of treatment of epileptic patients and should not be overlooked.

An added burden to the patient is the presence of psychological co morbidity and may represent a worsening factor for the patient condition and outcome.

Determinants for such psychological co morbidities were assessed in many studies and variable results had been reached including demographic, clinical and pharmacological factors.

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