Editors Committee

The impact of an Educational Training Program on Psychological Stressors on Women with Epilepsy at Outpatient Clinic at Assiut University Hospital

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Abstract
Aim: The aim of this study was to assess, design, implement and evaluate the effectiveness of an educational training program on psychological stressors among epileptic women. **Method**: A quasi experimental design was used on the study sample which consisted of 30 women who had been diagnosed as epileptic patients at Assiut University Hospital. Personal and clinical data sheet was developed and used by the investigator in addition to Stressors Inventory for Persons with Epilepsy (SIPE). **Results:** Results revealed that, more than half of the studied sample (56.7%) was observed in the age group from 30-40 years, mean±sd(30.4+4.6), Also 90% of the studied group were from rural area, and 96.7% of them were housewives, and more than half of them were illiterate, read & write (56.7%). relating to frequency of fits "every few months" represent the highest score (73.3%), meanwhile" everyweek" represented the lowest score (6.7%), women with epilepsy disorder who attended to the educational program showed significant improvement in their knowledge about epilepsy disorder and practice of relaxation techniques. Also significant improvement in level of stress. **Conclusions:** In conclusion most of women with epilepsy disorder had high level of stress, there was decreased level of stress in immediate post program and follow up than preprogram. **Recommendations:** This study recommended that community services should be offered to women with epilepsy as counseling center to help them manage their seizures and their lives successfully.

Keywords: Psychological Stressors & Women With Epilepsy.

Introduction
Epilepsy is a chronic neurological condition of unprovoked, recurrent seizures. Epilepsy affects approximately 50 million people worldwide **(WHO, 2016)** Epilepsy is about equally common in men and women. But women with epilepsy have some special issues to conceder (Spencer, 2016) Women with epilepsy face additional challenges secondary to hormonal influences on seizure activity and endocrine function. In addition, antiepileptic drugs (AEDs) play a significant role regarding contraception, pregnancy/breastfeeding and bone health **(Sunila et al., 2009)**.

Epilepsy itself is a very common medical condition that may occur among people of all ages, sex and races. Despite seizures may only last for a few seconds or a few minutes, it has much psychosocial repercussions to the patients and their family members **(Hung; 2009)**.

According to the recent researches, stress can cause changes in the brain which affect how the nerve cells work with each other. This can increase the risk of seizures occurring. Some people can become afraid of their seizures which can cause stress. In some cases this can become a vicious circle, with the fear causing seizures and seizures causing fear. **(Epilepsy Action, 2016).**

In psychology, coping means to invest own conscious effort, to solve personal and interpersonal problems, in order to try to master, minimize or tolerate stress and conflict **(Weiten & Lloyd., 2008)** Individuals have different methods of coping or dealing with their stressors. If stress has a role in triggering seizures then coping strategies may be useful which can reduce or eliminate stress such as relaxation techniques, which include exercises…etc **(Neeb, 1997)** .

Therefore recommended with educational programs for patients with epilepsy not only immediately after the initial diagnosis of epilepsy but also periodically at follow-up meetings

Significance of the study
More than 1.5 million girls and women with epilepsy in India face side effects that are compounded at different ages by menstruation, fertility, pregnancy, fetal health, bone health, and other health issues **(Joyce et al., 2007)** While in Assiut governorate, the prevalence rate was 9.3/1000 population, the crude lifetime prevalence rate (CPR) of epilepsy in femal was 10.9 per 1000 **(Khedr et al., 2013)** So, it is important to provide those women with necessary adequate knowledge, information about epilepsy disorder, etiology, and management**.** Through

teaching those women coping skills assist them to handle psychological stressors

Aim of the study
The study aimed to evaluate the effectiveness of an educational training program on psychological stressors among epileptic women through the following objectives:
- Assess psychological stressors among epileptic women.
- Design the educational program.
- Implement the educational program.
- Evaluate the impact of the program.

Subjects & Method
Study Design: A quasi experimental design was used in this study.

Setting of the study: The study was conducted at the outpatient clinic of epilepsy at Assiut University Hospital. This clinic is working only two days every week (Monday and Thursday), average number of patient's frequency weekly approximately 100 patients. This setting serves 4 Governorates (Assiut,Sohag, Qena and Aswan). This hospital provides all necessary health services free of charge.

Sample: Convenient sample of 30 women who had been diagnosed as epileptic patients within 6 months and agreed to participate in the study and was selected according to set criteria. Each woman should have epilepsy according to the definition of International League against Epilepsy (ILAE, 1993), for at least one year, age from 20-40 years, idiopathic type of epilepsy, and compliant to treatment for at least six-months and fits controlled. Women were excluded from study who had characteristics of epilepsy due to secondary causes. E.g. (brain tumor, head injury, cerbrovascular diseases, neoplasm, etc), non-compliant epileptic patients, psychotic features complicating or associated with epilepsy, and uncontrolled epilepsy.

Tools of data collection
Personal and clinical data questionnaire: This tool developed by the researcher to elicit data about patient's age, educational level, marital status, occupation, diagnosis, duration of illness and frequency of fits . Stressors Inventory for Persons with Epilepsy (SIPE) was developed by (Synder, 1986) in English language to assess stressors associated with epilepsy. The inventory consists of 22 items divided into three subscales, medication-related stressors (6 items), disease-related stressors (10 items), and relationship-related stressors (6 items). This questionnaire was translated into Arabic language and was assessed for content validity and clarity by **(Abdelsalam, et al., 2010)** Translation and

back translation the technique was used and content validity and reliability were done for the new version.

Education training program
The program was designed by the researcher based on the review of relevant literatures and revised by the supervisors. The designed program was implemented for women with epilepsy. The program included two parts; the first part was implemented to inform the women about epilepsy disorder, definition, causes, types, signs and symptoms of epilepsy as well as nursing care of this disorder. While the second part implemented to improve coping skills used of those women by teaching them relaxation techniques. The educational program has been reviewed by three experts (2professor of psychiatric nursing at the Faculty of Nursing, Cairo University and one neurologist from faculty of medicine, Assiut university) to test its content validity. The following phases were carried out to develop the program:

First: Assessment phase
This phase was aiming at assess women' knowledge about epilepsy disorder as well as assessment of their levels of stress associated with epilepsy.

Second: Content of the program.
This phase included the program strategy (time, number of sessions and teaching method). The teaching place and the facilities were checked for appropriateness Numbers of sessions were 12 sessions, one session per week for an hour.

Teaching sessions of the program were conducted in the epileptic outpatient clinics of Assuit university hospital. This clinic is working only two day every week (Monday and Thursday).The researcher interviewed women (selected sample of epileptic women) on Sunday every week.

The program divided into two parts
1. The first part includes knowledge about epilepsy disorder (from session 1 to 9).
2. Practical part: instruct patients how to practice relaxation techniques (session 10 to 12).

Session 1: The researcher gave introduction about the program, its goals, place and schedule of sessions, and pretest questionnaires.

Session 2: Introduction about epilepsy, and definition of epilepsy disorder.

Session 3: Types of epilepsy.

Session 4: Prevalence and etiology of epilepsy disorders.

Session 5: Sign and symptoms of epilepsy, and method of diagnosis.

Session 6: The effect of pregnancy on epilepsy, and the effect of antiepileptic medications on the fetus.

Session 7: Prevention of epilepsy disorders.

Session 8: Nursing care first part (first aid for epilepsy).

Session 9: Training session on the three types of relaxation techniques (deep breathing exercise, progressive relaxation technique, and passive progressive relaxation technique).

Session 10: Training session on another two types of relaxation techniques (spiritual and emotional ventilation).

Session 11: Training session on another two types of relaxation techniques (funny, and meditation).

Third: Implementation of the program.

For assigning women with epilepsy disorder, the researcher interviewed each patient individually to obtain the personal and clinical data, assessment of stressors in relation to epilepsy, and assessment of women' knowledge's about epilepsy disorder and its nursing management.

Program teaching methods

Teaching methods included in this program were lectures, and group discussion, handouts, and video (you tube). Since it was difficult to meet all the women at the same time, therefore the study sample was divided into 3 groups during program implementation phase i.e each group consisted of 10 women.

Fourth: Evaluation of the impact of the program at the post phase.

Fifth: Identification of factors affecting results.

Sixth: Evaluation of the impact in the follow up phase.

Procedure

The program included the following steps

1. An official permission from the general director of the hospital and the head of the psychiatric and neurological department were taken to facilitate the data collection.
2. At the beginning of the program, the women as well as the researcher were introduced to each other and the researcher gave an introduction about program, its goal, place and schedule of sessions.
3. Assessment sheet (pre-post-test) was completed by the researcher before starting the educational program. While the re-assessment (post-test) sheet was administrated on program termination and 3 months later (follow up).
4. The researcher met the patients once a week for one hour.
5. The diagnosis of patients was revised by neurologist working at Assiut University hospitals.
6. The questionnaire sheets were filled by women and recorded by the researcher on three phases as follows:
   1. Prior to beginning the educational program as assessment was carried out for women' knowledge about epilepsy disorder.

2. Second assessment was carried out immediately after completing implementation of the program.
3. Third assessment was carried out after 3 months after completing implementation of the program.

Data were collected throughout 10 months period from February 2015 to November 2015.

Pilot study

A pilot study was conducted on three women with epilepsy (excluded from the study sample) at outpatient clinic of epilepsy at Assiut University Hospital to test the clarity and objectivity of the questions& to and necessary modifications were done.

Ethical consideration

Research proposal approved from ethical committee in the faculty of nursing, there is no risk for study subjects during application of the research. Also the study followed common ethical principles in clinical research and written consent obtained from patients who are willing to participate in the study and after explaining the nature and purpose of the study. Moreover confidentiality and anonymity will be assured, study subject have the right to refuse to participate and or withdraw from the study without any rationale any time, and study subject's privacy was considered during collection of data

Statistical analysis

The data were tested for normality using the Kolmogorov-Smirnov test and for homogeneity variances prior to further statistical analysis. Categorical variables were described by number and percent (N, %), where continuous variables described by mean and standard deviation (Mean, SD). Chi-square was used to compare between categorical variables. Pearson correlation coefficient used to assess the association between continuous variables. A two-tailed $p < 0.05$ was considered statistically significant. All analyses were performed with the IBM SPSS 20.0 software.

Results
Table (1): Personal data of epileptic women (No=30).

Variables	No.(N=30)	%
Age in years		
20-<30	13	43.3
30-40	17	56.7
Mean±SD	30.4+4.6	
Marital status:		
Single	14	46.7
Married	14	46.7
Divorced	2	6.6
Resident:		
Rural	27	90.0
Urban	3	10.0
Occupation:		
House wife	29	96.7
Mental work	1	3.3
Educational level		
Illiterate, read and write	17	56.7
Basic education	7	23.3
Secondary	5	16.7
University	1	3.3

Table (2): Clinical data of studied epileptic women (No=30).

Variables	No.(N=30)	%
Duration of illness:		
1-<5 years	3	10
5-<10 years	10	33.3
10-<15 years	6	20.0
15 and more years	11	36.7
Frequency of fits:		
Every week	2	6.7
Every one month	6	20.0
Every few months	22	73.3
Uses of contraceptive :(14 married)		
No uses	9	64.3
Hormonal method	2	14.3
Mechanical method	3	21.4
Gravidity (16 married and divorce)		
Prime	2	12.5
2 -3 labour	11	68.8
>3 labour	3	18.8
Rhythm of menses		
Before marriage	27	
- Regular menses	3	90.0
- Irregular menses		10.0
After marriage (16 women)		
- Regular menses	12	75.0
- Irregular menses	4	25.0
Problems during pregnancy and labour		
- No problems	15	50
- secerain section	1	3.3
Newborn history		
1- Normal newborn	15	93.8
- Newborn with problems during labour: incubator	1	6.2

Table (3): Impact of an educational program on patient's knowledge about epilepsy disorder (No=30)

Items	Pre-test				Post-test				Follow up				P .value
	incorrect		correct		Incorrect		Correct		Incorrect		Correct		
	no.	%	no.	%	no.	%	no.	%	no.	%	no.	%	
Definition of epilepsy	15	50.0	15	50.0	1	3.3	29	96.7	1	3.3	29	96.7	<0.001**
Types of epilepsy	30	100.0	0	0.0	1	3.3	29	96.7	1	3.3	29	96.7	<0.001**
Causes of epilepsy	23	76.7	7	23.3	0	0.0	30	100.0	0	0.0	30	100.0	<0.001**
Symptoms of epilepsy	16	53.3	14	46.7	0	0.0	30	100.0	0	0.0	30	100.0	<0.001**
Symptoms of general seizure	30	100.0	0	0.0	3	10.0	27	90.0	3	10.0	27	90.0	<0.001**
Symptoms of petit mal seizure	24	80.0	6	20.0	0	0.0	30	100.0	0	0.0	30	100.0	<0.001**
First aid during fit	29	96.7	1	3.3	0	0.0	30	100.0	0	0.0	30	100.0	<0.001**
When must be transfer the patient to hospital	30	100.0	0	0.0	3	10.0	27	90.0	3	10.0	27	90.0	<0.001**
Effect of epilepsy on pregnancy	30	100.0	0	0.0	5	16.7	25	83.3	5	16.7	25	83.3	<0.001**
Effect of antiepileptic drugs on fetus	30	100.0	0	0.0	17	56.7	13	43.3	21	70.0	9	30.0	<0.001**
Preventive means mother must be follow it during Pregnancy	24	80.0	6	20.0	0	0.0	30	100.0	0	0.0	30	100.0	<0.001**

*** Statistically significant correlation (p<0.01)*

Table (4): Impact of an educational program on patient's practice (Relaxation Techniques) (N=30)

| Item	Pre-test				Post-test				Follow up				p. value
	Incorrect		Correct		Incorrect		Correct		incorrect		Correct		
	no	%	no	%	no	%	no	%	no	%	no	%	
Deep breathing exercise	27	90.0	3	10.0	0	0.0	30	100.0	0	0.0	30	100.0	<0.001**
Progressive relaxation	30	100.0	0	0.0	0	0.0	30	100.0	0	0.0	30	100.0	<0.001**
Negative progressive relaxation	30	100.0	0	0.0	6	20.0	24	80.0	6	20.0	24	80.0	<0.001**
Meditation	30	100.0	0	0.0	2	6.7	28	93.3	2	6.7	28	93.3	<0.001**
Fun therapy	26	86.7	4	13.3	0	0.0	30	100.0	0	0.0	30	100.0	<0.001**
Ventilation therapy	21	70.0	9	30.0	0	0.0	30	100.0	0	0.0	30	100.0	<0.001**
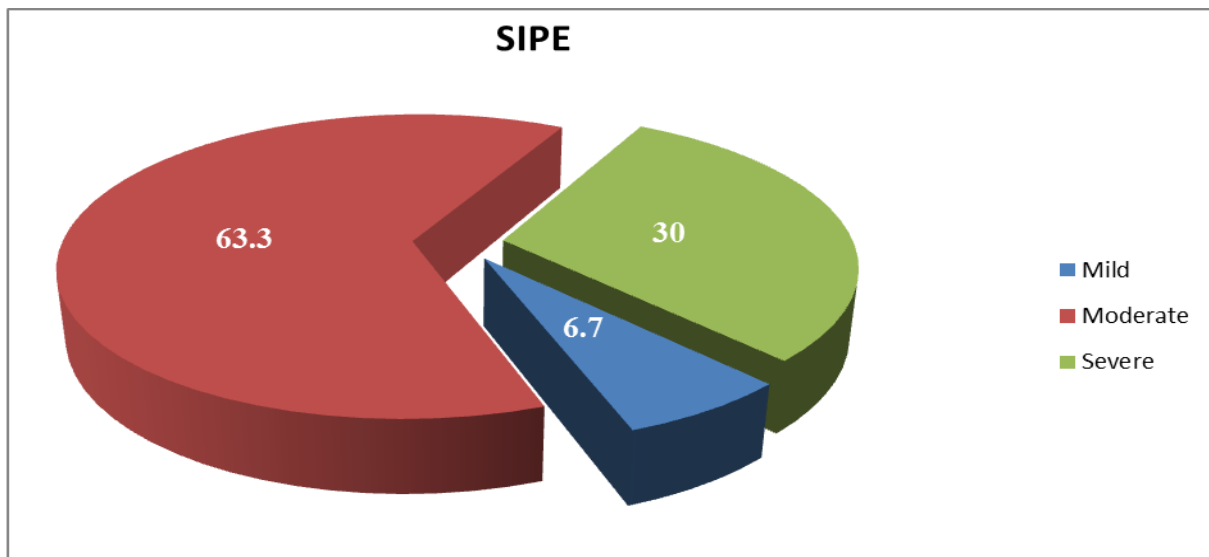
Fig (1): Distribution of levels of stressors among studied sample before application of the program.
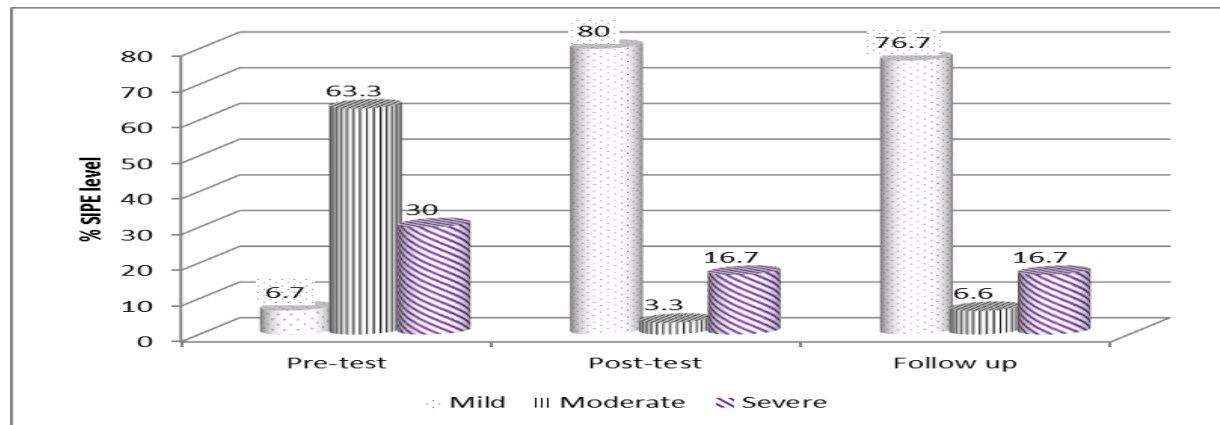
** *Statistically significant difference (p<0.01)*
Fig (2): Comparison between pre, post and follow up as regards levels of Stressors for women with Epilepsy (SIPE)

Results of the present study in **Table(1):** Revealed that, the mean±SD of age 30.4±4.6 years old, more than half of the studied women (56.7%) was observed in the age group from 30-40 years, less than half of studied women (46.7) observed single and married women as regard marital status, 90% of the studied women were from rural area, and 96.7% of the studied women were housewife, and more than half of them were illiterate, read & write (56.7%).

Also results declares **(Table 2):** That more than one third of the study women had duration of illness ≥15 years, relating to frequency of fits "every few months" represent the highest percentage (73.3%), meanwhile" every week" represent of the lowest percentage (6.7%), uses of contraceptive methods nearly two third of the married women of the studied women (64.3) did not used contraceptive methods, more than two third of married and divorced women of the studied women were having 2 to 3 times of labour, 10.0% of women with epilepsy had irregular menses before marriage, while 13.3% of them were had irregular menses after marriage, 3.3% of pregnant epileptic women were delivered by caesarean section, and 6.2% was admitted to intensive care unit (incubator) of born baby.

Table (3): Revealed that there is a significant improvement of studied women in knowledge about epilepsy disorder after application of the program except for the definition and symptoms of epilepsy.

Table (4): Shows that the majority of the studied sample did not have knowledge and practice about relaxation techniques before application of program, while after application of the program the studied sample were improved.

Also results in **Figure (1):** Showed that approximately the third of the study group (30.0%) had severe level of stress, while 63.3% of them had moderate level of stress in preprogram.

Figure (2): Showed that 80.0%, 76.7% of the study women who have mild level of stress, while 16.7% of them have severe level of stress in post program and follow up respectively.

Discussion
The present study aimed to evaluate the effectiveness of an educational training program on psychological stressors among epileptic women. The following discussion will focus upon the findings related to the aim of the study

As regard to rhythm of menses, the present study showed that, (10%) of women with epilepsy had irregular menses before marriage, while one quadrant of them had irregular menses after marriage. This result was supported by **Epilepsy Action (2011)** which reported that menstrual changes have been identified in about one third to half of women with temporal lobe epilepsy as compared to (7%) of women without epilepsy. These can include irregular menstrual cycles ranging from several months without menstruation to prolonged or shortened menstrual cycles.

Regarding to problems during labour (6.2%) of pregnant epileptic women was delivered by caesarean section. On the other hand **Sabers, (1997)** who studied the outcome of pregnancy in 151 patients with epilepsy, and he found that, the rate of delivery by caesarean section in the study was more than twice as frequent in women with epilepsy than controls. However increased rates of caesarean section in women with epilepsy have been confirmed by several other authors (**Vert, et al., 1982, Andermann, et al., 1982, Egenaes, 1982, & Yerby et al., 1985**) Also this finding was supported by (**Thomas, et al., 2009**) who reported that, the rates of cesarean section was significantly higher for women with epilepsy when compared to others in a

population-based study in Stockholm, Sweden. Cesarean deliveries were performed in about (18%) of pregnancies **(Othman & Ab Rahman 2013)** In Malaysia, the rates of cesarean deliveries have been increasing steadily over the years, and in 2006 the average rate in public hospitals was about 16% **(Ravindran, 2006)**

When assessing knowledge about epilepsy disorder among the studied sample, findings of the present study revealed that, the majority of the studied sample did not have knowledge about epilepsy disorder before application of the program except in definition and symptoms of epilepsy, while after application of program, knowledge of the studied sample were significantly improved . this can be interpreted by, the definition and symptoms of epilepsy is a scientific knowledge while the majority of the studied sample were from rural area and uneducated

This finding were supported by **Frizzell, et al., (2011)** in studying the effect of personalized epilepsy education intervention for adolescents and its impact on knowledge acquisition and psychosocial function among thirty adolescents with epilepsy, found that the intervention significantly improved self-knowledge and general knowledge of epilepsy, attitude toward epilepsy, seizure and self-efficacy.

The current study revealed that low practices of relaxation techniques before implementation of the program, while after application of the program the studied sample was improved. This findings could be explained by the fact that the majority of the studied sample were from rural area and uneducated, so they do not have enough knowledge about relaxation techniques and how to apply it.

When assessing the stress levels among epileptic women before application of the program, the present study revealed that approximately two third of the study group had moderate level of stress. This may explained by, epilepsy can cause stress for different reasons: living with a chronic illness can be disabling and frustrating, and the seizures themselves are acutely stressful events. Studies have shown that people with epilepsy tend to experience greater degree of psychological distress than people who do not have to cope with seizures **(Epilepsy Action, 2016)**

When assessing the stress levels among epileptic women after application of the program, the present study revealed that decreased level of stress in epileptic women after implementation of the program. This mean that trained women with epilepsy about their disorder and teach them how to practice of relaxation techniques that help the patient to cope with stress and decrease level of stress. The study in agreement with results of **Sorour &**

Mohamed., (2014) during examination of the effect of progressive relaxation technique in reducing epileptic seizures among adolescents. The study findings indicated significant decreases in the level of stress among participants after implementation of the intervention the application of the progressive relaxation technique was associated with a significant reduction in the level of stress among the adolescents with epilepsy. Also in the study of **Privitera, et al., (2014)** who studied the characteristics of people with self-reported stress precipitated seizure and found that, more than half of patients reporting stress-induced seizures had tried stress-reduction approaches (meditation, yoga, and other types of exercise were the most common), and most of these patients reported that these techniques led to improvement in their seizures. Even among the patients who did not cite stress as a trigger for seizures, one quadrant had tried stress reduction methods, and majority of this group reported subsequent improvement.

Conclusion & Recommendations
In conclusion most of women with epilepsy disorder had knowledge deficit about epilepsy disorder, and had high level of stress, there was improvement of their knowledge about epilepsy disorder and decreased level of stress in immediate post program and follow up than preprogram. This study recommended that Community services should be offered to women with epilepsy as counseling center helps them manage their seizures and their lives successfully.

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