

Section 1: Participant Flow & Sample Description

Sample:

A purposive sampling technique was utilized to recruit eligible participants based on predefined criteria. Parents were assigned in a progressive manner to prevent intergroup interaction and data contamination in the clinical setting: the study group was recruited and implemented after the control group was fully recruited and assessed.

The sample size was calculated using G*Power version 3.1.9, with an effect size of 0.50, a significance level of 0.05, and 80% power. The minimum required sample size was 155 parents of epileptic children. After considering a potential attrition rate of 10%, a total of 172 parents and divided into two group (86) for control group and (86) for study group, they were chosen according to inclusion criteria;

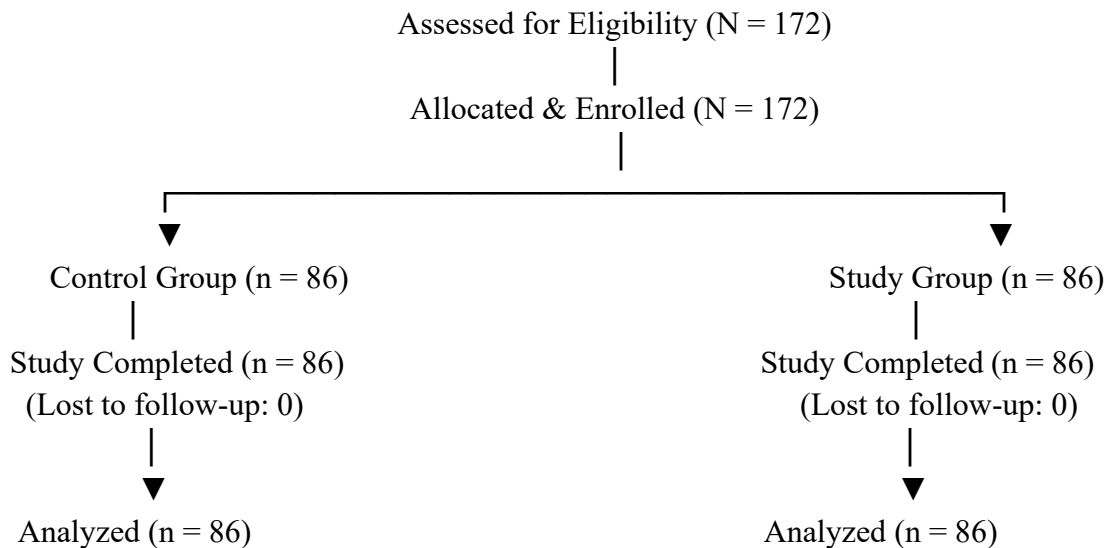
Inclusion criteria:

- Children aged 9-14 years.
- Children diagnosed with epilepsy by a neurologist in accordance with the International League Against Epilepsy.
- Children diagnosed for at least 6 months.
- Parents have smart phone and easily internet access.

Exclusion criteria:

- Child was combined with other complications or chronic diseases.
- The parents were suffering from cognitive impairment or mental illness.

Parents were allocated consecutively to the control group first to avoid data contamination, followed by recruitment of the study group.



Section 2: Baseline Characteristics

Table (1): Shows that, mean age is 36.2 ± 9.5 & 35.9 ± 9.8 years for both study and control groups respectively. While, more than three quarters (73.3% & 75.6%) of studied parents don't have experience in caring for child with epilepsy in both study & control groups respectively.

Table (2): Clarifies that, the mean age is 11.42 ± 1.49 & 11.12 ± 1.39 years for both study and control groups respectively. While, more than three quarters (73.3% & 80.2%) of studied children have primary education in both study & control groups respectively.

Table (3): Shows that, more than one third (38.4% & 41.9%) of studied children in both study and control groups have epilepsy for a period of $4 < 8$ years respectively. Regarding type of epilepsy, the majority (86.1% & 88.4%) of studied children are diagnosing with absence epilepsy in both study and control groups respectively.

Fig (1): - Displays that, less than two thirds (62.4% & 61.2%) of studied children in both study/control groups have seizures 1-2 times per month respectively, while (4.7% & 3.5%) of them have seizures more than 5 times per month.

Fig (2): - Illustrates that, the majority (82.4% & 84.7%) of studied children in both study/control groups have complete loss of consciousness during seizures respectively, while less than fifth (17.6% & 15.3%) of them have partial loss of consciousness during seizures respectively.

Table (1):- Distribution of the studied parents regarding to their characteristics in the study/control groups (n =172)

Items	Study group n=86		Control group n=86		X ²	P value
	No.	%	No.	%		
Age / years						
- 20<30	22	25.6	24	27.9	0.625	0.891
- 30<40	46	53.5	42	48.8		
- 40<50	18	20.9	20	23.3		
Mean $\pm$ SD	36.2 $\pm$ 9.5		35.9 $\pm$ 9.8			
Gender						
- Male	12	14.0	10	11.6	0.224	0.636
- Female	74	86.0	76	88.4		
- Parents's educational level						
- Basic Education	10	11.6	9	10.5	0.292	0.962
- Secondary Education	46	53.5	45	52.3		
- University Education	30	34.9	32	37.2		
- Parents's occupation						
- Work	73	84.9	80	93.0	2.237	0.135
- Not work	13	15.1	6	7.0		
Family income						
- Enough	35	40.7	41	47.7	0.855	0.355
- Not enough	51	59.3	45	52.3		
Experience in caring for child with epilepsy						
- Yes	23	26.7	21	24.4	1.744	0.187
- No	63	73.3	65	75.6		

No statistical significance P value >0.05

Table (2):- Distribution of the studied children according to their characteristics in the study/control groups (n =172)

No statistical significance P value >0.05

Items	Study group n=86		Control group n=86		X ²	P value
	No.	%	No.	%		
Age / years						
- 9 <11	42	48.9	50	58.1	1.517	0.468
- 11<13	21	24.4	19	22.1		
- 13≤14	23	26.7	17	19.8		
Mean ±SD	11.42±1.49		11.12±1.39			
Gender						
- Boy	54	62.8	59	68.6	0.621	0.431
- Girl	32	37.2	27	31.4		
Child's ranking						
- First	26	30.6	29	34.1	0.231	0.891
- Second	46	54.1	44	51.8		
- Third	14	15.3	13	14.1		
- Fourth and more	0	0.0	0	0.0		
- Number of school absence						
- 1<3	65	75.6	67	77.9	0.191	0.909
- 3<6	16	18.6	15	17.4		
- ≥ 6	5	5.8	4	4.7		
- Level of education						
- Primary education	63	73.3	69	80.2	1.164	0.281
- Preparatory education	23	26.7	17	19.8		

Table (3) Distribution of the studied children related to their medical history in the study/control groups (n =172)

Items	Study group n=86		Control group n=86		X ²	P value
	No.	%	No.	%		
Onset of disease (years)						
- 1 < 4	33	38.4	35	40.7	0.965	0.617
- 4 < 8	33	38.4	36	41.9		
- 8 <12	20	23.2	15	17.4		
Type of epilepsy						
- Absence epilepsy	74	86.1	76	88.4	0.505	0.777
- Rolandic epilepsy	5	5.8	5	5.8		
- Juvenile epilepsy	7	8.1	5	5.8		
- Infantile spasm	0	0.0	0	0.0		
- Etiology						
- Genetic	60	69.8	59	68.6	0.243	0.970
- Structural abnormalities	16	18.6	17	19.8		
- Infectious causes	5	5.8	6	6.9		
- Metabolic Disorders	5	5.8	4	4.7		

- Duration of epileptic seizures / minutes						
- a few seconds < 1	26	30.2	27	31.4	0.893	0.827
- 1<2	35	40.7	34	39.5		
- 2 <4	23	26.7	21	24.4		
- ≥4	2	2.4	4	4.7		
Treatment regimen						
- Number of anti-seizures drugs						
- 1	28	32.6	29	33.7	0.396	0.820
- 2	43	50.0	45	52.3		
- 3 and more	15	17.4	12	14.0		
- Duration of current treatment regimen / months						
- 6	35	40.7	33	38.4	0.522	0.770
- 12	43	50.0	47	54.7		
- 18 and more	8	9.3	6	6.9		
- If there is any change in treatment regimen?						
- Yes	60	69.8	62	72.1	0.113	0.737
- No	26	30.2	24	27.9		

No statistical significance P value >0.05

Figure (1): Distribution of the studied children related to frequency of seizures/ month in the study/control groups (n =172)

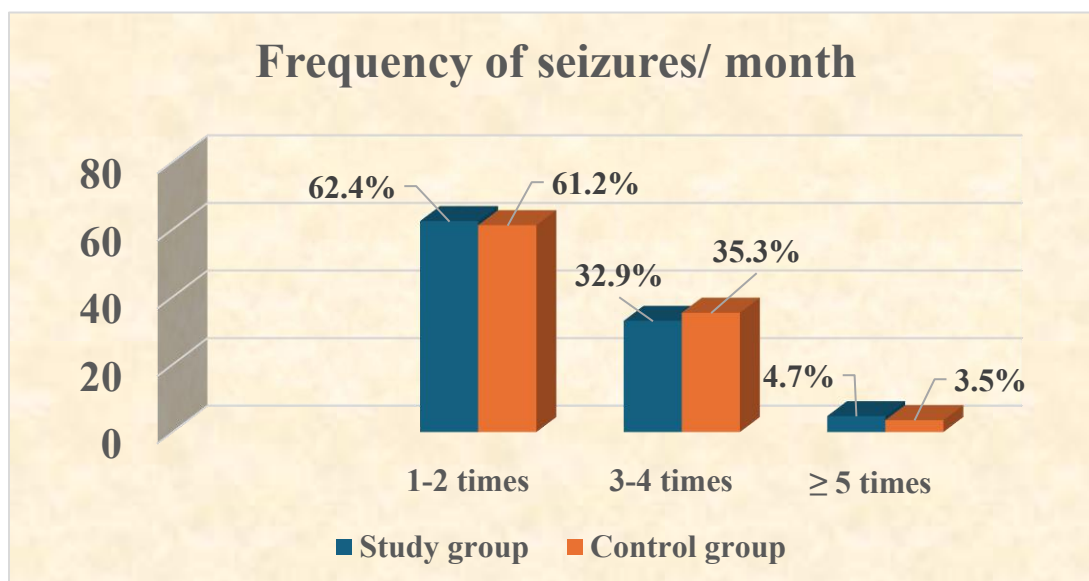
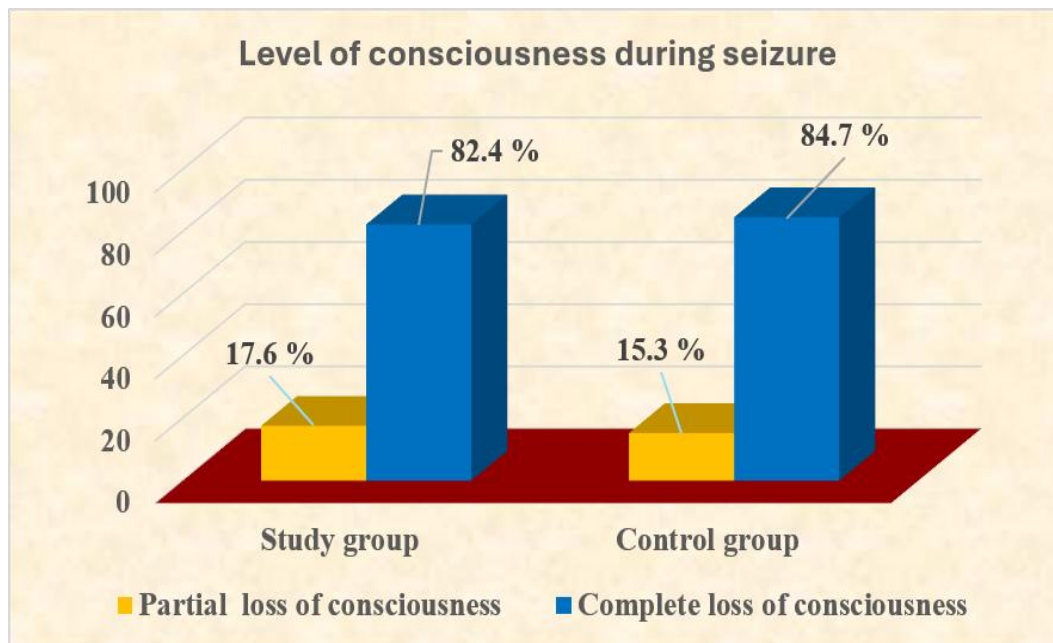


Figure (2): Distribution of the studied children related to level of consciousness during seizure in the study/control group (n =172)



Section 3: Primary Outcome Measures

Fig (3): - Clarifies that, the majority (87.2 %) of studied children in study group post have high level of knowledge related epilepsy compared to (20.3%) pre the program. Therefore, there are highly statistical significance difference ($P < 0.000$) between children in the study group pre compared to post program. This figure also shows that, slightly more than half (52.9%) of studied children in the control group pre have low of knowledge related epilepsy compared to (52%) post the program. Therefore, there is no statistical significance difference ($P > 0.005$) between children in the control group pre compared to post program.

Table (4): - Shows that, there are highly statistical significance difference ($P < 0.000$) between children in the study group pre compared to post program. Additionally, there is no statistical significance difference ($P > 0.05$) between children in the control group pre compared to post program.

Table (5): Shows that, there is no statistically significant difference between both groups before telenursing-based family empowerment program. However, after the tele-nursing-based family empowerment program, parents in the study group achieved significantly higher epilepsy self-efficacy scores than those in the control group ($p < 0.001$).

Table (6A): - Clarifies that, there are highly statistical significance difference ($P < 0.001$) between children in the study group pre compared to post program.

Table (6B): - Shows that, there is no statistical significance difference ($P > 0.05$) between children in the control group pre compared to post program.

Table (7): - Demonstrates that, there are highly statistical significance difference ($P < 0.001$) between children in the study group pre compared to post program. Additionally, there is no statistical significance difference ($P > 0.05$) between children in the control group pre compared to post program.

Table (8): - Clarifies that, there is highly statistical significance difference ($P < 0.001$) between children in the study group post compared to control group post program, indicating the effectiveness of the tele-nursing-based family empowerment program.

Figure (3): Distribution of the studied parents according to their total level of knowledge related epilepsy in both study / control group pre /post telenursing-based family empowerment program (n =172).

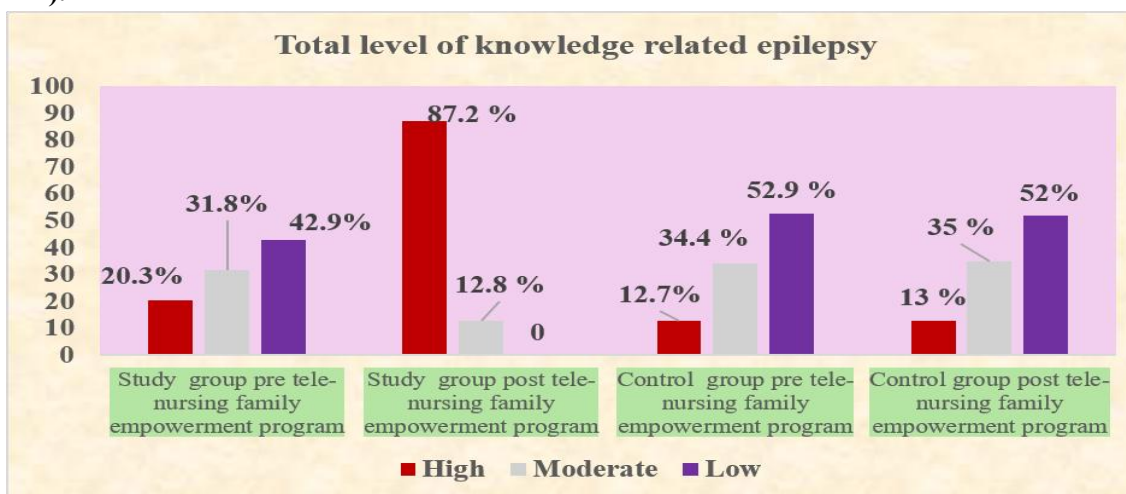


Table (4):- Total mean scores of the studied parents according to Family Empowerment Scale (FES) in the study and control group pre /post telenursing-based family empowerment program (n =172)

Items	Study group (n =86)		Paired t- test	P value	Control group (n =86)		Paired t- test	P value
	Pre-telenursing-program	Post telenursing-program			Pre-telenursing-program	Post telenursing-program		
	Mean $\pm$ SD	Mean $\pm$ SD			Mean $\pm$ SD	Mean $\pm$ SD		
Family empowerment	1.98 $\pm$ 0.71	4.51 $\pm$ 0.78	20.46	0.001*	1.84 $\pm$ 0.73	1.87 $\pm$ 0.75	0.324	0.750
Service system Empowerment	2.05 $\pm$ 0.70	5.45 $\pm$ 0.68	22.04	0.001*	1.75 $\pm$ 0.60	1.73 $\pm$ 0.58	0.283	0.780
Community/Political empowerment	2.02 $\pm$ 0.71	4.32 $\pm$ 0.74	20.71	0.001*	2.04 $\pm$ 0.69	2.07 $\pm$ 0.70	0.346	0.734

Statistical significant $P < 0.001^*$

No statistical significance $P \text{ value} > 0.05$

Table (5): Total mean scores of the studied parents according to Epilepsy Self-Efficacy in both the study and control groups pre /post telenursing-based family empowerment program (n = 172)

Groups	Pre- telenursing-based family empowerment program	Post telenursing-based family empowerment program	Paired t-test	p-value
	Mean $\pm$ SD	Mean $\pm$ SD		
Study (n =86)	85.95 $\pm$ 43.33	214.65 $\pm$ 57.35	16.461	0.001*
Control (n =86)	80.58 $\pm$ 46.28	82.50 $\pm$ 43.47	0.092	0.278

Table (6 A):- Distribution of the studied parents according to General Medication Adherence Scale (GMAS) in the study group pre /post telenursing-based family empowerment program (n =86)

Items	Study group (n =86)										x ²	P value
	Pre- telenursing-based family empowerment program					Post telenursing-based family empowerment program						
	High	Good	Partial	Low	Poor	High	Good	Partial	Low	Poor		
	%	%	%	%	%	%	%	%	%	%		
Cost related non-adherence	3.2	2.4	20.9	31.2	42.3	45.3	32.6	15.1	4.7	2.3	68.42	0.001*
Comorbidity and pill burden related non-adherence	3.8	2.7	29.7	34.8	29.0	41.9	34.9	16.0	5.0	2.2	62.15	0.001*
Non-adherence due to patient behavior	4.6	3.4	17.9	33.4	40.7	48.8	30.2	15.5	5.2	2.3	71.30	0.001*

Statistical significant P< 0.001*

Table (6B):- Distribution of the studied parents according to General Medication Adherence Scale (GMAS) in the control group pre /post telenursing-based family empowerment program (n =86)

Items	Control group (n =86)										x ²	P value
	Pre- telenursing-based family empowerment program					Post telenursing-based family empowerment program						
	High	Good	Partial	Low	Poor	High	Good	Partial	Low	Poor		
	%	%	%	%	%	%	%	%	%	%		
Cost related non- adherence	2.9	2.2	21.3	35.1	38.5	3.5	2.3	20.9	34.9	38.4	0.283	0.869
Comorbidity and pill burden related non-adherence	3.4	2.3	29.1	32.7	32.5	3.5	2.5	28.9	32.1	33.0	0.058	0.975
Non-adherence due to patient behavior	4.0	2.8	17.3	30.8	45.1	4.7	2.3	17.4	30.2	45.4	0.354	0.893

No statistical significance P value >0.05

Table (7):- Total mean scores of the studied parents according to Family Resilience Assessment Scale (FRAS) in the study and control group pre /post telenursing-based family empowerment program (n =172)

Items	Study group (n =86)		Paired t- test	P value	Control group (n =86)		Paired t- test	P value
	Pre-telenursing program	Post telenursing program			Pre-telenursing program	Post telenursing program		
	Mean ± SD	Mean ± SD			Mean ± SD	Mean ± SD		
Family communication and problem solving (FCPS)	2.01 ±0.69	3.10±0.82	10.89	0.001*	1.78 ± 0.79	1.81 ±0.76	0.253	0.803
Utilizing social and economic resources	1.99±0.67	3.59±0.62	16.65	0.001*	1.78±0.69	1.72±0.67	0.291	0.772
Maintaining a positive outlook (MPO)	1.94±0.70	3.55±0.65	17.30	0.001*	1.92±0.72	1.95±0.70	0.287	0.780
Family connectedness	1.88 ±0.65	3.42±0.71	14.82	0.001*	1.82±0.71	1.87±0.73	0.274	0.788
Family spirituality	1.82 ±0.63	3.50±0.66	16.90	0.001*	1.80±0.68	1.77±0.65	0.293	0.772
The ability to make meaning of adversity (AMMA)	1.75±0.60	3.48±0.68	20.12	0.001*	1.69±0.65	1.72±0.63	0.311	0.757

Statistical significant P< 0.001*

No statistical significance P value >0.05

Table (8): Total mean scores of the studied parents according to family empowerment scale, epilepsy self-efficacy and family resilience assessment scale in both study and control groups post telenursing-based family empowerment program (n = 172)

Variables	Study group post telenursing-based family empowerment program	Control group post telenursing-based family empowerment program	Independent t-test	p-value
	Mean ± SD	Mean ± SD		
Family Empowerment Scale (FES)	4.76±0.73	1.89±0.68	26.68	0.001*
Epilepsy Self-Efficacy	214.65±57.35	82.50±43.47	17.029	0.001*
Family Resilience Assessment Scale (FRAS)	3.44±0.71	1.81±0.69	15.27	0.001*

Section 4: Adverse Events

Adverse Events: No adverse events or safety concerns were reported among premature neonates or participating parents throughout the study duration and follow-up period

