

**Supplementary materials**

**Table S1: Clinical Baseline Information**

**DEMOGRAPHIC DETAILS**

ID (code)	
Hospital name	
Hospital ID of patient	
Date of blood collection	
Mobile no.	
Date of birth	
Place of birth	
Gender	0. Male 1. Female
Age at epilepsy diagnosis	
Newly diagnosed	0. No 1. Yes If yes which date:
classification of epileptic seizures	0. Partial (specify -----) 1. generalized (specify-----)
The time of first seizure	
Epilepsy Syndromes	0. Idiopathic epilepsies 1. Symptomatic epilepsies (define Underlying etiology) 2. Cryptogenic epilepsies
Level of education for parents	0. Illiterate 1. Attended school but did not reach grade 12 2. Grade 12 3. Undergraduate 4. Graduate
Income for parents	0. <300JD 1. 300-600 JD 2. >600-1000 JD 3. >1000 JD 4. refuse
Height (m)	
Weight (Kg)	
Waist circumference	

**Table S1: Cont.**

**CLINICAL HISTORY**

History of febrile seizure	0. No 1. Yes (when...)
Family history of epilepsy	2. No 3. 1. Yes (specify number and degree of relatives)
Non-epilepsy related co morbidity	0. No 1. Yes (DM) 2. Yes (HTN) 3. Yes (CAD) 4. Yes (osteoporosis) 5. Yes (others-----)
Non-epilepsy medication (prescription & OTC)    0. No            1. Yes	
Do you suffer from:	
Heart disease	0. No 1. Yes
High blood pressure	0. No 1. Yes
High cholesterol or triglycerides	0. No 1. Yes
Liver or kidney disease	0. No 1. Yes
Glaucoma	0. No 1. Yes (specify)
A thyroid disorder;	0. No 1. Yes

**Table S1: Cont.**

Lupus	0. No 1. Yes
Porphyria	0. No 1. Yes
A history of mental illness, psychosis, or suicidal thoughts or actions	0. No 1. Yes
Psychosis	0. No 1. Yes
Suicidal thoughts or actions	0. No 1. Yes

**Lab evaluation**

MRI (Magnetic resonance imaging)	0. No 1. Yes (date)
EEG (Electroencephalogram)	0. No 1. Yes (date)
CT (Computerized tomography)	0. No 1. Yes (date)
Neuropsychological evaluation	0. No 1. Yes (date)
Vitamin D	0. No 1. Yes (date)
Other lab test	0. No 1. Yes (specify )

**MEDICATION HISTORY**

Non-pharmacological treatment	0. NO 1. Yes (Ketogenic diet) 2. Yes (vagal nerve stimulation) 3. Yes (surgery) 4. Did you eat or drink Grapefruit and grapefruit juice while taking AED?			
Current AED	0. Monotherapy 1. Polytherapy			
AED	Name	Dose	Frequency	Duration of Use

**Table S1: Cont.**

Drug level (drug concentration in blood)	0. No 1. Yes (specify type of drug and its level) a. 200 mg orally 2 times a day b. 100 mg orally 4 times a day c. How long the AED was taken before relapse, remission, withdrawal, ongoing d. Other (specify)
Response to first drug	0. No 1. Yes
Time to remission	0. No 1. seizure free immediately 2. seizure free within 6 months
Any relapse	0.no 1. Yes (how many) and after how many days
Withdrawn medication	0. no 1. yes
Any change on epilepsy therapy	0. No 1. Yes (specify -----when, what, why----- -----)
Any side effects experienced from epilepsy drugs	0. No 1. Nausea and vomiting 2. Sedation 3. Ataxia 4. Rash 5. Hyponatremia 6. Weight gain 7. weight loss 8. Osteoporosis
Outcome evaluations seizure calendar (Seizure periodic evaluation)	0. No 1. Yes

**Table S2** The distributions of CHRM2 haplotypes in 296 epileptic patients in compare to 299 healthy controls.

Gene	Haplotypes	Patients (%)	Controls (%)	Odds ratio (95% CI)	P-value
CHRM2	CT	0.4509	0.4902	1.00	---
	TC	0.4185	0.4041	1.12 (0.88 – 1.42)	0.34
	CC	0.1314	0.0981	1.41 (0.98 – 2.03)	0.068

Chi-Square Test with  $P < 0.05$  is considered significant  
Global haplotype association p-value: 0.14

**Table S3** The distributions of CHRM2 haplotypes in 172 patients with generalized epilepsy in compare to 299 healthy controls.

Gene	Haplotypes	Generalized		Odds ratio (95% CI)	P-value
		Epilepsy Patients (%)	Controls (%)		
CHRM2	CT	0.4283	0.4902	1.00	---
	TC	0.4335	0.4041	1.23 (0.93 – 1.62)	0.15
	CC	0.1347	0.0981	1.54 (1.00 – 2.35)	0.05

Chi-Square Test with  $P < 0.05$  is considered significant  
 Global haplotype association p-value: 0.15

**Table S4** The distributions of CHRM2 haplotypes in 124 patients with partial epilepsy in compare to 299 healthy controls.

Gene	Haplotypes	Partial		Odds ratio (95% CI)	P-value
		Epilepsy Patients (%)	Controls (%)		
CHRM2	CT	0.4283	0.4902	1.00	---
	TC	0.4335	0.4041	0.99 (0.73 – 1.35)	0.97
	CC	0.1347	0.0981	1.27 (0.80 – 2.01)	0.3

Chi-Square Test with  $P < 0.05$  is considered significant  
 Global haplotype association p-value: 0.26

**Table S5** Frequencies of CHRM2 haplotypes in 124 poor responders and 171 good responders.

Gene	Haplotypes	Poor responder (%)	Good responder (%)	OR (95% CI)	P value
CHRM2	CT	0.4357	0.4677	1.00	---
	TC	0.4458	0.3779	1.25 (0.88 – 1.76)	0.21
	CC	0.1152	0.1544	0.83 (0.51 – 1.34)	0.44

Chi-Square Test with  $P < 0.05$  is considered significant  
Global haplotype association p-value: 0.23