QUALITY OF LIFE AND ASSOCIATED FACTORS AMONG PEDIATRIC PATIENTS WITH EPILEPSY IN A TERTIARY HOSPITAL

Kimberly Dianne F. Mejia, MD , Maria Lourdes M. Trajano, MD, FPPS, FCNSP, FPNA

Baguio General Hospital and Medical Center

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INTRODUCTION

Epilepsy is considered to be one of the most common neurological disorders among children which accounts for 0.50% of the global burden of disease, wherein approximately 50 million individuals are affected worldwide. In the Philippines, the estimated prevalence of epilepsy is 0.9%.[1]

Most of the cases of epilepsy among children are due to genetic factors, while one-third of cases are due to acquired injuries, such as injury during labor, trauma, infections, or tumor.[2] With factors such as social, psychological, behavioral, and educational which affects the lives of the children with epilepsy as well as their families and other close social networks, this has a significant impact on their daily quality of life.[3]

This study aimed to address the huge treatment gap in epilepsy care in terms of socio-economic limitations, few clinical and epidemiologic research, and high disease burden in the Philippines, especially on the pediatric population.[1] Moreover, there is a large evidence gap in our understanding of pediatric patients with epilepsy in terms of their self-reported quality of life and the factors that could influence it.[3]

OBJECTIVES

The objective of this study is to determine the health-related quality of life (HRQOL) and its associated factors among pediatric patients with epilepsy using Pediatric Quality of Life Inventory Epilepsy Module (PEDS QL-EM).

METHODOLOGY

This is a single center cross-sectional study conducted in a tertiary hospital in Baguio City from August to November 2023. The PEDS QL-EM was administered to patients aged 2-18 years old with their respective parents or guardians. There was no total score but clinical cutoffs were used to indicate impairment across subdomains which are recently published by Jungar et.al, and are as follows: Impact (Parent = 60.7; Child = 64.39), Cognitive (Parent = 38.11; Child = 50.97), Executive Functioning (Parent = 46.65; Child = 57.15), Sleep (Parent = 42.07; Child = 43.90), and Mood/Behavior (Parent = 54.14; Child = 53.30).[4] The researcher recorded quality of life as good, if the patient scored on mean and above the cut-off score of quality of life-related questions on all parameters/domains, and poor, if the patient scored below the cut-off score of quality of life measuring questions on all parameters/domains.

Frequency and percentage were used to determine the socio-demographic profile and clinical characteristics of the research participants. Association between quality of life and socio-demographic profile and clinical characteristics of patients were determined using chi square, and correlation were determined using logistic regression.

RESULTS

A total of 80 patients diagnosed with Epilepsy were included in the study. Significantly, patients who have fathers with low educational attainment have poor HRQOL on their cognitive functioning and on the impact of epilepsy to them. Those with uncontrolled seizures for the past year and on polytherapy were also reported to have poor cognitive functioning. In addition, poor executive functioning was linked to those who use Lamotrigine, while those with good executive function tend to use Levetiracetam, Valproic Acid, and Oxcarbazepine.

	Poor	Good	χ^2 value	P value
Sex			0.155	.694
Male	11	21		
Female	11	17		
Age			1.1261	.532
2-4 Years	x	x		
5-7 Years	4	4		
8-12 Years	6	15		
13-18 Years	12	19		
Income			3.269	.514
< Php 10,000	10	21		
Php 10,000-20,000	5	10		
Php 20,001-30,000	4	6		
Php 30,001-40,000	2	1		
Php 40,001-50,000	1	0		
Father's Education			0.586	.746
Elementary	5	9		
High School	8	17		
College	9	12		
Mother's Education			4.449	.108
Elementary	2	3		
High School	5	19		
College	15	16		
Residence			3.589	.058
Urban	4	16		
Rural	18	22		
Seizure Type			1.041	.594
Generalized	15	22		
Focal	7	15		
Unknown	0	1		
Seizure Frequency			1.460	.834
None	5	8		
Daily	1	1		
Weekly	0	2		
Monthly	8	12		
Yearly	8	15		
Seizure Control			0.354	.552
Controlled for the past year	14	27		
Uncontrolled for the past year	8	11		
Duration of Illness			2.705	.100
< 5 Years	13	30		
> 5 Years	9	8		
Anti-seizure medications			7.984	0.018*
1	13	34		
2	5	3		
>=3	4	1		
Type of Anti-Seizure Medication			21.599	.042*
Phenobarbital	2	0		
Levetiracetam	7	13		

Table I. Patient response: Association of socio-demographic and Health Related Quality of Life (HRQOL) to Executive functioning

	Poor	Good	χ^2 value	P value
Sex			0.151	.698
Male	19	25		
Female	14	22		
Age			1.270	.736
2-4 Years	9	11		
5-7 Years	2	6		
8-12 Years	8	13		
13-18 Years	14	17		
Income			7.527	.111
< Php 10,000	15	30		
Php 10,000-20,000	11	8		
Php 20,001-30,000	3	8		
Php 30,001-40,000	3	1		
Php 40,001-50,000	1	0		
Father's Education			6.610	.037*
Elementary	7	8		
High School	19	16		
College	7	23		
Mother's Education			2.467	.291
Elementary	4	3		
High School	15	16		
College	14	28		
Residence			1.931	.165
Urban	11	23		
Rural	22	24		
Seizure Type			0.130	.937
Generalized	20	27		
Focal	12	18		
Unknown	1	2		
Seizure Frequency			6.482	.166
None	3	12		
Daily	2	1		
Weekly	3	1		
Monthly	13	13		
Yearly	12	20		
Seizure Control			3.265	.071
Controlled for the past year	19	36		
Uncontrolled for the past year	14	11		
Duration of Illness			0.301	.584
< 5 Years	25	38		
> 5 Years	8	9		
Anti-seizure medications			1.251	.535
1	24	39		
2	6	5		
>=3	3	3		
Type of Anti-Seizure Medication			13.808	.313
Phenobarbital	2	0		
Levetiracetam	14	23		

Table II. Caregiver response: Association of socio-demographic and Health Related Quality of Life (HRQOL) to Impact

	Poor	Good	χ^2 value	P value
Sex			3.152	.076
Male	18	26		
Female	8	28		
Age			1.297	.730
2-4 Years	5	15		
5-7 Years	3	5		
8-12 Years	6	15		
13-18 Years	12	19		
Income			5.869	.209
< Php 10,000	13	32		
Php 10,000-20,000	8	11		
Php 20,001-30,000	2	9		
Php 30,001-40,000	3	1		
Php 40,001-50,000	0	1		
Father's Education			6.219	.045*
Elementary	5	10		
High School	16	19		
College	5	25		
Mother's Education			3.046	.218
Elementary	3	4		
High School	13	18		
College	10	32		
Residence			2.169	.141
Urban	8	26		
Rural	16	28		
Seizure Type			2.630	.268
Generalized	18	29		
Focal	8	22		
Unknown	0	3		
Seizure Frequency			3.211	.523
None	3	12		
Daily	2	1		
Weekly	1	3		
Monthly	10	16		
Yearly	10	22		
Seizure Control			3.982	.046*
Controlled for the past year	14	41		
Uncontrolled for the past year	12	13		
Duration of Illness			2.086	.149
< 5 Years	18	45		
> 5 Years	8	9		
Anti-seizure medications			10.223	.006**
1	15	48		
2	7	4		
>=3	4	2		
Type of Anti-Seizure Medication			17.471	.133
Phenobarbital	2	0		
Levetiracetam	11	26		

Table III. Caregiver Response: Association of socio-demographic and Health Related Quality of Life (HRQOL) to Cognitive functioning

CONCLUSION

In conclusion, Epilepsy, which is one of the most common neurological disorders among children can affect the patients' quality of life significantly. The socio-demographic and clinical characteristics of the patients that are strongly associated to have poor health-related quality of life are the following: low fathers' educational attainment, poor seizure control, a certain type of medication (Lamotrigine), and polytherapy. These factors affect the HRQOL of patients significantly on their cognitive and executive functioning, and on the impact of epilepsy on them.

On the other hand, the following socio-demographic and clinical characteristics were not significantly affected on this study: age, sex, average monthly family income, mother's education, place of residence, seizure type, and the duration of illness.

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