ABSTRACT
A COMPARATIVE STUDY OF THE CLINICAL & NEUROBEHAVIORAL PROFILE OF CHILDREN WITH SEIZURE DISORDER Vs HEALTHY CONTROLS IN A TERTIARY HEALTH CARE CENTRE

AIMS &OBJECTIVES:
- To compare the clinical & neurobehavioral profile of children with seizure disorder versus healthy controls in a tertiary health care centre.
- To compare the effect of single AED & multiple AEDs on the neurobehavioral outcome of children with seizures.
- To co-relate the Sociodemographic characteristics with the epilepsy pattern in such children.
- To describe the prevalence & pattern of behavioural problems in children with recent onset seizures & long standing seizure disorder.

METHODOLOGY:
- Case Control Study(August 2017 to August 2018) done at ICH & HC, Chennai
- SAMPLE SIZE- 200
- STUDY POPULATION: All children between 6-12 years of age diagnosed to have seizure disorder:
  - on single AED(seizure free for 6months)-50 Cases
  - on multiple AEDs-50 Cases
  - Age& sex matched healthy controls-100 controls
  - with no developmental delay/known neurological/psychiatric illness/behavioural abnormality

Associated Neurobehavioral comorbidities in these children will be screened using the following questionnaires: Strength & difficulties questionnaire (SDQ), Quality of life in childhood epilepsy questionnaire (QOLCE), Child behaviour checklist questionnaire (CBCL), Developmental Coordination disorder questionnaire (DCDQ). These questionnaires have got separate scoring systems. Statistical analysis was done using student independent “t” test & $\chi^2$ (Chi-square) test.
RESULTS:

Children with epilepsy had abnormal DCDQ scores than the control group. The mean QOLCE scores of seizure group & control group were 55.4±30.7 and 84.3±13.5 respectively (seizure group with lower scores have poorer quality of life). In the seizure group, 50.6% of children had normal CBCL scores & 53% had normal SDQ scores, whereas 49.4% had abnormal CBCL scores & 46% had abnormal SDQ scores. In the control group, 93.1% of children had normal CBCL scores & 94% had normal SDQ scores whereas only 6.9% had abnormal CBCL scores and 6% had abnormal SDQ scores.

Epileptic children on polytherapy had abnormal DCDQ scores than those on monotherapy. The mean QOLCE scores of monotherapy & polytherapy group were 62.6±28.3 and 48.2±31.6 indicating that the quality of life is worse in polytherapy group (lower scores). In the monotherapy group, 60.5% of children had normal CBCL scores & 62% had normal SDQ scores, whereas 39.5% had abnormal CBCL scores & 36% had abnormal SDQ scores. In the polytherapy group 40.9% of children had normal CBCL scores & 44% had normal SDQ scores, whereas 59.1% had abnormal CBCL scores & 56% had abnormal SDQ scores. Based on their scores, children with epilepsy (Polytherapy > monotherapy) are at increased risk of developing behavioural and emotional problems, conduct and hyperactivity problems, developmental coordination disorder and hence have a poorer quality of life.

Early age of onset, increased frequency of seizures and increased duration of epilepsy are found to significantly affect the neurobehavioral outcome.

CONCLUSION:

Neurobehavioral comorbidities are common in children with epilepsy than the general population. Also, Children who are on multiple anti-epileptic drugs for longer duration are more vulnerable to these comorbidities than those on monotherapy. When left unattended, they may often affect the family life, friendships and classroom learning leading to school dropouts, irregularity and ultimately poor life outcomes. Therefore, screening of all children with epilepsy for cognitive & behavioural difficulties becomes mandatory and it should be incorporated in the management of childhood seizures.