Indian Journal of Basic and Applied Medical Research; March 2016: Vol.-5, Issue- 2, P. 415-422

**Original article:**

**Pharmaco-epidemiological and pharmaco-economic analysis of antiepileptic drugs at a tertiary level health care centre - a cross-sectional prospective study**

**Dr. Shraddha Tatkare1\*, Dr. Nilesh Tatkare2, Dr. Usha Nayak3**

1 MD, Assistant Professor, K. J. Somaiya Medical College, Mumbai.

2 MD, Assistant Professor, K. J. Somaiya Medical College, Mumbai.

3 MD, Professor, K. J. Somaiya Medical College, Mumbai.

**Correspondence:** Dr. Shraddha Tatkare

**Abstract**

**Background:** The need of prolonged treatment of epilepsy along with high cost of new antiepileptic drugs (AEDs) imposes a heavy economic burden on poor rural population. Thus, this study aims to analyze the current pharmacotherapy practices of epilepsy and its economics in a tertiary care rural teaching hospital by correlating the epidemiology and economics of antiepileptic drug (AED) treatment.

**Methods**: A prospective, cross-sectional, observational study was carried out over 1 year. The epidemiological, disease and treatment data were collected from patients with epilepsy from medicine and paediatric out patient departments (OPDs).

**Results**: The study group comprised 180 men and 125 women. The mean ± SD (standard deviation) of the patients' age was 30.2 ± 15.6 years. Primary generalized epilepsy (58.5%) and seizures secondary to head injury and infections were the frequent causes. Monotherapy was seen among 60% with maximum number of patients receiving phenytoin (DPH) (41.3%), followed by Carbamazepine (CBZ) (32%), Valproic acid (VPA) (15.4%), and Phenobarbitone (PB) (10.5%). Polytherapy consisted combination of two AEDs or AED with Benzodiazepine (BZD). The relative cost (% GNP/capita) for standard AEDs were as follows: PB, 4.4%; DPH, 7.1%; CBZ, 16.8%; and VPA, 29.5%. Cost minimization analysis showed a higher absolute annual cost of new vs old AEDs (p < 0.05).

**Conclusions**: In this study significant high cost of treatment was observed; use of polytherapy further added to the cost of treatment; suggesting the need to design comprehensive treatment plan to encourage more cost effective use of AEDs in poor rural population.

**Key words:** Pharmaco-Epidemiology, Pharmaco-Economics, Antiepileptic Drugs