

## Empowerment of primary health care to bridge the childhood epilepsy treatment gap in an outreach financially-constrained district in Pakistan

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**Introduction:** There is huge childhood epilepsy treatment gap (CETG) in developing countries because of nonadherence to antiepileptic drugs (AEDs), and this can adversely affect the course of childhood epilepsy (CE). There is a dearth of data in such countries on the effectiveness-assessment of community interventions regarding treatment improvement for the children with epilepsy (CWE).

**Study type:** Case control interventional study.

**Objectives:** This study was designed to determine the effectiveness of interventions through free community childhood epilepsy center by combining outreach monthly free pediatric neurology camps and Telepaedsneurology aiming at bridging the huge treatment among CWE.

**Methods:** After integration and implementing childhood epilepsy (CE) into primary care for last two years, in a case control interventional study, 240 CWE (160 being treated and followed in the free community childhood epilepsy center and 80 as control, not being treated at this center). The age ranged from 4 months to 18 years, in whom treatment initiated with antiepileptic drugs (AEDs) for the past 3 months prior to the data collection date were evaluated. Data was collected by a questionnaire divided into three parts 1) demographical information about patients, 2) information about childhood epilepsy treatment and AED(s) medication adherence profile using the Morisky Medication Adherence Scale-8 (MMAS-8) and 3) data on intervention-effectiveness of the community childhood epilepsy center (CCEC) on bridging the treatment gap in comparison with cohort not being intervened by this center. Ethical approval was obtained from the institutional ethics committee.

**Results:** Male to female ratio was 1.26:1. After two years of intervention by Top-Down-Bottom-up-Childhood-Epilepsy-Program –Center (TDBUCEPC), childhood epilepsy treatment gap (CETG) dropped to 20% (was 90% in 2014), however the treatment gap was 82.5% among the cohort not being intervened at this center. Adherence to antiepileptic drugs by self-report was 85% (was 42% in 2014 without community intervention) among the children being treated, provided free AEDs with consultations and followed at the epilepsy center, whereas, currently adherence was 37.5% among the children not being intervened at this center.

**Conclusion:** Integration and implementation of CE into primary health care in outreach financially-constrained districts in Pakistan is one of the best strategies to bridge the huge TGCE, by empowering the local communities to provide free treatment for CWE.

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