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Epilepsy 2

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Epilepsy 2
The prevalence and subjective handicap of epilepsy in ilie- a rural riverine community in Southwest Nigeria: A door –to- door survey

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Background: The prevalence of epilepsy is high in tropical countries, particularly in Africa with an estimated mean prevalence of 15 per 1000. There is lack of recent data on epilepsy prevalence in Nigeria.
Objectives: The main objective of this study was to determine the prevalence of epilepsy in Ilie in South West (SW) Nigeria and secondary objectives were to determine the clinical characteristics and the seizure types with EEG recording, the pattern of treatment and to evaluate the subjective handicap of PWE
Materials and methods: The study which was descriptive cross-sectional, was carried out in Ilie, a rural community in South west Nigeria using a random sample technique. The survey was done in 2 phases from January 2013 to April 2013.

Phase 1: Door to door screening using the WHO Neuroscience Research Protocol to detect neurological disorders by health workers.

Phase 2: Individuals with positive screening had complete neurologic examination by neurologists as well as an EEG recording. The questionnaires for survey of epilepsy in tropical countries and subjective handicap of epilepsy were administered to all PWE.
Results: 2212 individuals from 231 households were screened during the first phase and 33 cases of neurologic diseases were detected. During the second phase, 10 cases were confirmed to be epilepsy by neurologists, thus giving a crude lifetime prevalence of 10/2212 = 4.5/1000 population ($CI95_{\%}$ 2.30, 8.04).
Conclusions: The prevalence of epilepsy in Ilie South West Nigeria is rather low compared to previous figures from studies in rural Africa.
Keywords: Epilepsy, Prevalence, Subjective Handicap & Treatment

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Epilepsy 2
Understandying the right hemisphere's role in communication abilities: A study in temporal lobe epilepsy patients

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Objective: Language research in epilepsy has previously been focused on dominant hemisphere processing. Although communication skills that enable social functioning and in which the right hemisphere has a central role, have remained unexplored. The purpose of this study was to investigate communication abilities in patients with right lateralized medial temporal lobe epilepsy (TLE).
Methods: 60 patients with TLE and hippocampal sclerosis candidates for surgical treatment were evaluated: 28 with a right epileptic zone (EZ) (RTLE) and 32 with a left EZ (LTLE). Subjects were underwent a battery to measure: conversational and narrative discourse; prosody; social inference, pragmatic comprehension; verbal fluency; naming and logic-temporal sequencing. Disease related variables and general neuropsychological data were evaluated.
Results: RTLE compared to LTLE patients, showed interictal conversational and narrative discourse impairments, a tendency to tangential and disintegrated speech, lack of hierarchical and categorized codification, and misinterpretation of social intention. RTLE showed lower performance in conversational discourse, narrative comprehension retelling and production, idiom expressions' and indirect speech's comprehension, social meaning inference, emotional prosody, strategies for lexical and categorization. Otherwise, LTLE group showed lower performance in logical temporal sequencing.
Significance: RTLE patients showed deficits which are similar to what has been described in right hemisphere damaged patients, and may be important to evaluate these skills in RTLE patients to detect potential impairments. Medial and anterior temporal lobe structures seem to have a key role in discourse processing as a link between semantic, world knowledge, and social cognition associated areas to construct a contextually related coherent meaning.

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Incidence and risk factors for attention deficit disorder (Add) in a population-based cohort of children with epilepsy

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Purpose: To determine the prevalence and risk factors of ADD in a population-based cohort with childhood epilepsy.
Methods: Children (0-17 years) with newly-diagnosed epilepsy while resident in Olmsted County MN, from 1980-2009 were identified through the Rochester Epidemiology Project Database. Demographic and epilepsy details, as well as diagnosis and treatment of ADD were obtained by chart review. We excluded children < 5 years of age at final follow-up and those with moderate-severe intellectual disability.
Results: Of 468 children with new-onset epilepsy, 376 met entry criteria and comprised the study group [mean age at follow up - 18.0 years (SD 8.2), mean duration of follow-up from epilepsy onset - 10.4 years

(SD 6.9)]. ADD had been diagnosed in 98 subjects (26.1%) of which 75 (77%) were prescribed medication for this diagnosis. Incidence of ADD did not vary between epilepsy etiologies (genetic – 29.8%, structural-metabolic – 25.3%, unknown – 24.6%), but tended to be more common in generalized vs. focal modes of onset (31.6% vs 23.3%, $p = 0.07$).

Risk factors for the diagnosis of ADD included mild intellectual disability ($p < 0.001$), younger age at seizure onset ($p = 0.003$), history of status epilepticus ($p = 0.015$), male sex ($p = 0.017$) and lack of neonatal seizures ($p = 0.04$).

The presence of comorbid ADD did not adversely impact long-term epilepsy outcome, with similar rates of seizure freedom (72.3% without and 78.7% with ADD) and intractability (10.8% without and 8.1% with ADD) at final follow-up.

Conclusion: Comorbid ADD is present in over one quarter of children with epilepsy, but does not adversely impact long-term epilepsy outcome.

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Epilepsy 2
Sudden unexpected death in epilepsy: improving our discussions with patients

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Background: There is disparity between clinical practice and guidelines on discussing Sudden death in epilepsy (SUDEP) with patients.
Objective: To examine how patients are currently informed about SUDEP compared to other risks in epilepsy, the impact of such discussion on health seeking behaviour, and patients' views on the timing, content and delivery of such discussion.
Patients and methods: 50/74 patients (mean age 37 years, 26 men) attending epilepsy clinics at a London teaching hospital over six months consented to participate in this cross-sectional questionnaire. Patients identified as at risk of suffering negative emotional or physical consequences of SUDEP discussions were excluded.
Results: 98% of patients were aware of medication adherence, 84% of factors influencing seizure frequency, 78% of driving regulations, 50% of SUDEP and 38% of status epilepticus. Preferences for timing of SUDEP discussions were divided between those wanting information at diagnosis (42%) and after three clinic appointments (36%), to avoid information overload and excessive worry on first consultation. Emotional responses (38% negative), rather than behavioural changes to self-management, resulted from SUDEP discussions.
Conclusions: Less than half of patients knew about SUDEP and status epilepticus. 38% of patients perceived negative consequences from SUDEP discussion. There was no evidence of resultant improved self-management. Discussion of SUDEP was unhelpful to a significant minority. It would be better placed in the context of reducing potential complications of epilepsy, with education and proactive emphasis on the benefits of optimal health care and self-management.

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Do neurologists around the world agree when diagnosing epilepsy? - Results of a multinational epinet study

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Background: It is not known whether doctors make diagnoses of epilepsy in a similar way.
Objective: To determine variability in epilepsy diagnoses when neurologists are presented with identical case scenarios.
Material and methods: Epileptologists and neurologists with an interest in epilepsy were invited to assess 32 case scenarios describing 6 children and 26 adults with paroxysmal events. For each patient, participants were asked: how likely it was the patient had epilepsy (epilepsy, uncertain, not-epilepsy); if epilepsy, to classify the patients' seizures using the ILAE 2010 classification; and to determine the etiology (structural/metabolic; genetic; or unknown).

Responses were recorded in the EpiNet database.

The 'gold standard" diagnosis was determined by the EpiNet steering committee. 21 patients had epileptic seizures, 9 had non-epileptic events, and the diagnosis was uncertain in 2 cases.

In 24 cases, clinical information was presented in Step 1, and neuroimaging and EEG studies were provided in Step 2. I have obtained Institutional Review Board (IRB) approval, as necessary.
Results: 201 participants from 35 countries completed the 32 cases. Full data was available from 191 investigators for the 24 cases with 2 steps. Kappa values for step 1 were: diagnosis of epilepsy = 0.55; seizure type(s) = 0.36; etiology = 0.36.

Kappa values increased at Step 2 for diagnosis of epilepsy (0.68), seizure type (0.48) and etiology (0.44).
Conclusion: Agreement between neurologists from 35 countries for the diagnosis of epilepsy was moderate when based on history alone. In contrast, agreement on seizure type and etiology was poor. Agreement improved when results of investigations were included.

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Epilepsy 2
Quality of antiepileptic drugs in Africa: Results from a pilot study (Quaeda) in Kenya and Gabon

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Background: Epilepsy is a common neurological disorder affecting about 70 million people worldwide, with 80% in resource-limited countries. The primary healthcare in these countries is extremely under-resourced, few standard antiepileptic drugs (AEDs) are commonly used and there are concerns about the quality of these AEDs.
Objective: We aimed to assess the quality of AEDs gathered from delivery structures, where patients could buy these drugs, in rural and urban areas in Kenya and Gabon.

Methods: It was a cross-sectional study assessing AEDs gathered from public, private and illegal circuits. Analyses were carried out in France following Pharmacopeia recommendations. Several tests (active ingredients assay, related substances screening, mass uniformity, dissolution, disintegration and friability) were conducted to assess the quality of the AED. A further screening with mass spectrometry and nuclear magnetic resonance was performed for fake AEDs and/or those found containing unknown compounds.
Results: In both countries, 61 boxes of AEDs were gathered (5% of diazepam, 25% of carbamazepine, 33% of phenobarbital, 10% of phenytoin and 28% of sodium valproate). Of the 61 boxes, 72% (44) have been completely analysed. Of these 44 boxes analysed, 95% met the required quality standards and 5% were fake-drugs. In particular, one batch of phenobarbital and one of phenytoin from illicit market in Kenya did not have active ingredients, but unknown compound (unidentified as yet).
Conclusion: A small proportion of poor quality AEDs was found in these African countries. Illicit circuit appeared to be the most involved, this might be due to poor storage conditions.

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Clinical recognition and differential semiology during video-eeg in patients with temporal lobe epilepsy and psychogenic none epileptic seizures

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Introduction: There is an important delay to reach psychogenic non epileptic seizures (PNES) diagnosis, between 7 -11 years, probably related to a difficult access to VIDEO-EEG. The aim of this study was to detect specific clinical signs in PNES and in Temporal Lobe Epilepsy (TLE) patients recorded during VEEG, which will allow the clinician to accelerate the access to VIDEO-EEG for diagnosis confirmation in PNES patients.
Methods: VEEG records were reviewed and classified according to: aura, lack of responsiveness, hypermotor, automatisms and motionless. Psychiatric evaluation (Structured Clinical Interview for DSM-IV I and II) was determined. For statistical analysis student test and chi square were determined using SPSS.
Results: 21 patients with PNES (age: 35 ± 11 years) and 21 with TLE (age: 34 ± 13 years) were included. Seizure's duration was of 1,44 ± 0,5 minutes in TLE and of 6,7 ± 8,8 minutes in PNES ($p < 0.05$). Absences of Lack of responsiveness and hypermotor seizures were more frequent in PNES ($p < 0.05$) and automatisms were more frequent in TLE ($p < 0.05$). Age of seizure onset was lower in TLE ($p < 0.05$) and females prevailed in PNES group ($p < 0.05$). Aura and motionless was similar in both groups. Inside the psychiatric evaluation the PNES group presented a higher frequency of depression ($p < 0.05$) and personality disorders ($p < 0.05$).
Conclusion: In this study semiology characteristics that may orientate to the differential diagnosis between PNES and TLE were found. Clinical semiology may help to speed up the access to VEEG and the instauration of correct mental health treatment.

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Slow wave sleep is detrimental for memory consolidation in transient epileptic amnesia

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Background: Epilepsy is associated with accelerated long-term forgetting (ALF), a form of memory impairment characterised by rapid forgetting of new information despite normal learning and initial retention. ALF is particularly common in transient epileptic amnesia (TEA).

ALF is thought to represent a specific problem with memory consolidation. In healthy adults, slow wave sleep (SWS) plays an important role in memory consolidation: the more SWS a period of sleep contains, the greater the benefit to memory. We hypothesised that this relationship between SWS and memory is abnormal in patients with epilepsy.
Objective: To examine the relationship between SWS and ALF.
Patients and methods: TEA patients ($n = 10$) and healthy controls ($n = 11$) learned 30 word-pairs in the morning or evening. Recall was tested after 30 minutes, 12 hours (of wakefulness or sleep) and 1 week. Polysomnography was performed in the sleep condition. Institutional Review Board (IRB) approval was granted.
Results: Patients forgot the word pairs more rapidly than controls. Both groups showed a benefit of sleep for memory retention. As expected, this benefit was positively correlated with SWS (%) in controls ($r = 0.589$, $p = 0.044$). In contrast, patients showed a *negative* correlation between SWS and the benefit of sleep for memory retention over twelve hours (-0.756, $p = 0.011$), which was significantly different from controls ($Z = 2.50$, $p < 0.05$). No epileptiform activity was observed in patients' EEG traces.
Conclusion: Whereas SWS is beneficial for memory consolidation in healthy individuals, it is detrimental in TEA. This effect may be due to aberrant interaction between memory traces and slow oscillations.

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