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5-9 September 2026 | Athens, Greece



ABSTRACTS BOOK

16th European Epilepsy Congress

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Oral Presentations

In Person Poster Presentations

Late Breaking In Person Poster Presentations

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Purpose: Electroencephalography (EEG) is essential for epilepsy evaluation and management but remains inaccessible in many clinical and community settings due to cost and infrastructure constraints, particularly in resource-limited or non-tertiary care environments. This study evaluates the feasibility and signal quality of a low-cost, multichannel EEG acquisition system assembled from commercially available components for epilepsy-related EEG monitoring, screening, and education.
Method: An eight-channel EEG system operating at a 250Hz sampling rate was evaluated. Resting-state EEG recordings were obtained from healthy volunteers (n=6) during eyes-open and eyes-closed conditions, using standard resting-state EEG paradigms. Multiple 40-second recordings per condition were collected following informed consent. Signals were band-pass filtered between 1-40Hz. Mean signal amplitude was quantified following baseline correction. Power spectral density analysis assessed physiological EEG features. Signal-to-noise ratio (SNR) was estimated as the ratio of alpha-band (8-12Hz) to high-frequency (30-40Hz) power.
Results: Distinct and physiologically expected spectral patterns were observed between eyes-open and eyes-closed conditions. Baseline-corrected raw signal amplitudes were typically in the 200-600µV range, with occasional artifact-related outliers in the millivolt range. Power spectral analysis demonstrated a reproducible alpha peak between 8-12Hz, particularly during eyes-closed recordings. SNR values ranged from -2.4 to 10.3dB (mean 6-7dB), indicating that alpha-band power generally exceeded high-frequency noise. One channel was excluded due to high impedance and artifact contamination, with over 90% of channels remaining usable. Total system cost was approximately US$400, substantially lower than comparable commercial systems (US$3000+). System setup required less than 10 minutes and could be performed by non-expert users with minimal infrastructure.
Conclusion: This pilot study demonstrates the feasibility of a portable, low-cost multichannel EEG system capable of acquiring stable, physiologically meaningful EEG signals. Such systems may support EEG-based screening, monitoring, and education in resource-restricted settings where conventional EEG access is limited, particularly for epilepsy-related care.

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Non-epileptic seizures in military persons in wartime conditions: Clinical features and diagnostic approaches in Kharkiv region

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Purpose: Psychogenic non-epileptic seizures (PNES) are common in military populations exposed to sustained psychological stress and sleep deprivation. In frontline, resource-restricted settings, access to video-EEG monitoring is often unavailable. This study aimed to describe clinical characteristics of seizure-like events in military personnel from a frontline region and to evaluate a pragmatic diagnostic approach based on seizure semiology and routine EEG.
Method: Forty-three active military servicemen presenting with recurrent seizure-like events were prospectively evaluated in a neurology unit in the Kharkiv region. All patients underwent neurological examination, structured analysis of seizure semiology, assessment of triggering factors (combat-related stress, sleep deprivation, alcohol or stimulant use), routine interictal EEG, and psychotherapeutic consultation. Categorical variables are presented as frequencies and percentages. Differences between

observed clinical patterns and reference distributions reported for epileptic seizures were assessed using a goodness-of-fit χ^2 test, with statistical significance set at $p < 0.05$.
Results: Variable motor manifestations were documented in 34 of 43 patients (79%). Prolonged events (>5 minutes) or clustered attacks occurred in 28 of 43 cases (65%). Partial preservation of contact or responsiveness during episodes was observed in 23 patients (53%), while minimal or absent postictal confusion was noted in 35 patients (81%). A temporal association with psychological stressors or sleep deprivation was identified in 30 patients (70%). Interictal EEG findings were normal or nonspecific in 38 cases (88%), without epileptiform discharges. The observed distribution of prolonged events and preserved responsiveness differed significantly from reference patterns described for epileptic seizures ($\chi^2 = 6.12$, $p = 0.013$). Based on combined clinical criteria, 30 of 43 patients (70%) met high-probability diagnostic features of PNES.
Conclusion: In frontline military settings without access to video-EEG monitoring, a structured diagnostic approach integrating semiological assessment and routine EEG enables high-probability identification of PNES. This approach reduces unnecessary antiepileptic treatment and supports timely referral for psychotherapeutic care.

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New-onset seizures in emergency department of a tertiary referral centre in Egypt: Aetiological profile and mortality outcome

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Purpose: Studying the clinical and aetiological profiles of new-onset seizures (NOS) is crucial for improving treatment and prognosis. This study aimed to determine the aetiological profile and clinical characteristics of patients presenting with NOS in the emergency department (ED) of Kasr Alainy Hospital, and to assess morbidity and mortality outcomes.
Method: Patients with NOS, either provoked or unprovoked, with or without SE, who attended the ED of Kasr Alainy Hospital were prospectively evaluated. A comparison was made between provoked and unprovoked seizures regarding clinical, electrophysiological, and neuro-radiological data. Multiple stepwise logistic regressions were conducted to identify significant predictors of mortality.
Results: The study included 173 patients presenting with NOS, divided into two groups: those with provoked seizures (n=131, 75.7%) & those with unprovoked seizures (n=42, 24.3%). The most common cause of NOS was vascular aetiology (n = 89, 52%), which was significantly higher in acute symptomatic cases (73, 55.7%) compared to remote symptomatic cases (16, 38.1%) (P < 0.001). Metabolic derangement and systemic infections were the second most common causes of NOS. The overall mortality was 27%. The regression model revealed the following predictors of mortality: older age {OR=1.039, 95% CI (1.017 – 1.061)}, SE on presentation{OR =12.130, 95% CI (4.875 – 30.182)}, and the need for anaesthesia infusion{OR = 8.209, 95% CI (1.875 – 35.935)}.
Conclusion: Vascular-related causes were the most common of NOS in the ED. Old age, SE on presentation, and the need for anaesthesia infusion are independent predictors of death, necessitating timely evaluation of such patients to minimise mortality outcomes.

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Knowledge, attitudes, and practice towards epilepsy among healthcare professionals in Eastern Georgia

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