188 Nomogram of Peak Expiratory Flow Rate Values for Adolescents in a State in Southeast Nigeria

Odirichi Andrew, Iheoma Egbooru, Ngozi Ojinnaka, Thecla Ezeonu, Obumene Ezeanosike. Nigeria

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Background Due to the presence of sources of air pollutants (multiple quarry sites and rice mills) in the study area, Peak Expiratory Flow Rate (PEFR) obtained in other parts of the country may not be safely extrapolated to this region. Additionally, the reality of the need to classify asthma exacerbations during emergencies or initial visits where a personal best PEFR is not available has made the development of local PEFR reference values paramount.

Objectives This study was undertaken to develop a nomogram of peak expiratory flow rate values for adolescents in Ebonyi State, Nigeria.

Methods A cross-sectional study was carried out among 970 adolescents from April to June 2018, using a multistage random sampling technique. The PEFR for each subject was determined by the standard miniWright peak flow meter. All data obtained were recorded in a proforma and analysed with Statistical Package for the Social Sciences version 21. The PEFR of the subjects were summarised using mean and standard deviation. Linear regression analysis was used to test the relationship between PEFR and its predictors.

Results The overall mean PEFR value was 332±83 L/min. The mean PEFR was 359±96 L/min in males and 312±64 L/min in females (t = 9.09, p < 0.001). The predictive equation was derived as follows:

Males: PEFR = 2*Height + 7.8*Age + 1.7*Weight – 152.2
Females: PEFR = 2*Height + 7.8*Age + 1.7*Weight – 192.9

A PEFR nomogram for males and females was created from the equation (a sample for males is represented in table 1).

Conclusions Predicted PEFR values were represented in a nomogram as a reference to the adolescent population in the state and may be used to evaluate PEFR in health facilities in the region.

189 Levetiracetam as the First Line Treatment for Neonatal Seizures – A Systematic Review and Meta-Analysis

Robert Hooper, Viraraghavan Vadakkencherry Ramaswamy, Rachael Wahid, Prakash Satodia, Adarsh Bhulani. UK

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Background Seizures are the most significant neonatal emergency, with implications on neurodevelopment and mortality. Evidence for the best management of them still remains limited. Phenobarbital is currently the most used drug for neonatal seizure management. The use of Levetiracetam as an alternative is increasing. It is hypothesised to have a better safety profile.

Objectives Assess the effectiveness and safety of levetiracetam when used as the first line treatment of neonatal seizures.

Methods Three electronic databases; MEDLINE, EMBASE, and Web of Science were systematically searched from inception until 20th November 2020. Randomized controlled trials (RCTs) and observational studies that included term and preterm neonates were eligible for inclusion. The primary outcome measure was effectiveness of levetiracetam, defined as seizure cessation within 24 hours of starting treatment. Secondary outcomes included short-term adverse events, mortality before discharge and long-term neurodevelopmental outcomes.

Results 14 studies assessing 1,188 neonates were included. Four were RCTs, three observational trials with phenobarbital as the control arm and seven observational studies of levetiracetam with no control arm. Pooled efficacy of levetiracetam from observational studies was 45% (95% CI: 34%-57%). Meta-analysis of RCTs evaluating levetiracetam versus phenobarbital showed that both were equally effective [RR (95%