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NOMOGRAM OF PEAK EXPIRATORY FLOW RATE VALUES FOR ADOLESCENTS IN A STATE IN SOUTHEAST 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.

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LEVETIRACETAM AS THE FIRST LINE TREATMENT FOR NEONATAL SEIZURES – A SYSTEMATIC REVIEW AND META-ANALYSIS

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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 pre-term 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%

Abstract 188 Table 1 Nomogram of PEFR values in Litres/Minute – Male

Weight (kg)	Age in year (Median height in cm)									
	10 (143)	11 (143)	12 (148)	13 (152)	14 (155)	15 (159)	16 (163)	17 (165)	18 (165)	19 (165)
20	246	254	271	287	301	317	333	344	352	360
25	254	262	280	296	310	325	341	353	361	369
30	263	271	288	304	318	334	350	361	369	377
35	271	279	297	313	327	342	358	370	378	386
40	280	288	305	321	335	351	367	378	386	394
45	288	296	314	330	344	359	375	387	395	403
50	297	305	322	338	352	368	384	395	403	411
55	305	313	331	347	361	376	392	404	412	420
60	314	322	339	355	369	385	401	412	420	428
65	322	330	348	364	378	393	409	421	429	437
70	331	339	356	372	386	402	418	429	437	445
75	339	347	365	381	395	410	426	438	446	454
80	348	356	373	389	403	419	435	446	454	462
85	356	364	382	398	412	427	443	455	463	471
90	365	373	390	406	420	436	452	463	471	479
95	373	381	399	415	429	444	460	472	480	488