

Mixed Effect Regression Model: Single vs Multiple vs No General Anesthesia Exposure
Domain: Communication/General Knowledge

Model was constructed using Communication/General Knowledge as the dependent variable, variance components as the covariance structure, maximum likelihood estimation method, model based fixed effects standard error and the between-within method to determine degrees of freedom.

Number of Cases by Anesthesia Exposure

Category	N	%
No GA	13586	75.24
Single GA	3850	21.32
Multiple GA	620	3.43

Covariance Parameter Estimates

Parameter	Estimate	SE	Z value	p value	Alpha	Lower	Upper
Intercept	0.14	0.05	3.05	0.0011	0.05	0.08	0.30
Residual	6.26	0.08	79.57	<.0001	0.05	6.11	6.42

Solution for Fixed Effects

Effect	Estimate	SE	DF	t value	p value	Alpha	Lower	Upper
Intercept	7.94	0.06	5637	130.01	<.0001	0.05	7.82	8.06
Multiple GA	-0.49	0.11	4423	-4.56	<.0001	0.05	-0.69	-0.28
Single GA	-0.35	0.05	4423	-7.63	<.0001	0.05	-0.45	-0.26
No GA	.	.	.	.	.	.	.	.
Income Assistance	-0.67	0.05	2412	-14.01	<.0001	0.05	-0.76	-0.58
RUB=4&5 pre GA	-0.14	0.10	5650	-1.46	0.1437	0.05	-0.34	0.05
RUB=3 pre GA	-0.07	0.06	5650	-1.1	0.2733	0.05	-0.18	0.05
RUB=2 pre GA	-0.01	0.06	5650	-0.22	0.8238	0.05	-0.13	0.10

RUB=0 pre GA	-0.33	0.09	5650	-3.55	0.0004	0.05	-0.51	-0.15
RUB=1 pre GA	0.00	.	.	.	.	.	.	.
RUB=4&5 pre EDI	-0.92	0.21	6639	-4.5	<.0001	0.05	-1.33	-0.52
RUB=3 pre EDI	-0.08	0.06	6639	-1.25	0.21	0.05	-0.19	0.04
RUB=2 pre EDI	0.05	0.05	6639	1.03	0.304	0.05	-0.04	0.14
RUB=0 pre EDI	-0.38	0.07	6639	-5.37	<.0001	0.05	-0.52	-0.24
RUB=1 pre EDI	0.00	.	.	.	.	.	.	.
SGA	-0.20	0.07	1104	-2.66	0.0079	0.05	-0.35	-0.05
LGA	0.00	0.05	2228	0.03	0.977	0.05	-0.10	0.10
CFS	-0.82	0.08	955	-10.26	<.0001	0.05	-0.98	-0.66
Age at EDI (yr)	1.04	0.06	1.20E+04	16.33	<.0001	0.05	0.91	1.16
Mother's age (yr)	0.05	0.00	1.20E+04	12.69	<.0001	0.05	0.05	0.06
Gestational age	0.06	0.01	1.20E+04	5.27	<.0001	0.05	0.04	0.08

Tests of Fixed Effects

Covariate	DF		F Value	Pr > F
	DF (Numerator)	(Denominator)		
GA	2	4423	36.0	<.0001
IA	1	2412	196.3	<.0001
RUB pre GA	4	5650	4.1	0.0025
RUB preEDI	4	6639	15.3	<.0001
SGA	1	1104	7.1	0.0079
LGA	1	2228	0.0	0.977
CFS	1	955	105.2	<.0001
Age at EDI (yr)	1	12000	266.7	<.0001
Mother's age (yr)	1	12000	161.0	<.0001
Gestational Age	1	12000	27.8	<.0001

CFS= Child and Family Services

DF = degrees of freedom

GA= General Anesthesia

IA= Income Assistance

LGA = large for gestational age

Lower and upper refer to 95% confidence interval

RUB = Resource Utilization Bands, an index of health resource utilization

SE = standard error