

EP10.31

Nomogram of nuchal translucency in Indian population: It's different!

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Objectives To establish nomogram of nuchal translucency (NT) measurement obtained during first-trimester ultrasound examination in Indian population.

Method: First-trimester NT measurements were analyzed in a large cohort of 8,605 pregnancies undergoing routine aneuploidy screening from 2015 to 2025. Study population was singleton pregnancies, gestational age 12+0 to 13+6 weeks, CRL range: 60–84 mm in 8,605 patients. NT measured according to standardized protocol as per FMF guideline. Exclusion criteria were multiple pregnancies, major structural anomalies detected at first scan, missing outcome data. Following Ultrasound protocol was followed. NT measured in true midsagittal plane, Callipers placed on inner borders, maximum of three measurements recorded, highest acceptable NT used for analysis.

Results Microsoft Excel was used to analyse the data to produce 5th, 50th and 95th centile values and polynomial equation and graphs were created. Using FMF NT values for correlation, our chart differs from FMF by: median (50th): mean absolute difference 0.24 mm, max absolute difference 0.30 mm and 95th centile: mean absolute difference 0.29 mm, max absolute difference 0.39 mm.

Conclusion: Our data is different as compared to FMF data so our data can be useful in our low-resource settings, absence of biochemistry and it facilitates personalized counselling. It also suggest that post examination risk may be lower in an Indian population, so cutoff can be different to categorize in high, moderate or low risk for trisomy 21.

CRL-based NT centile curves (5th, 50th, and 95th). Points represent observed centile values; solid lines represent fitted third-degree polynomial curves.

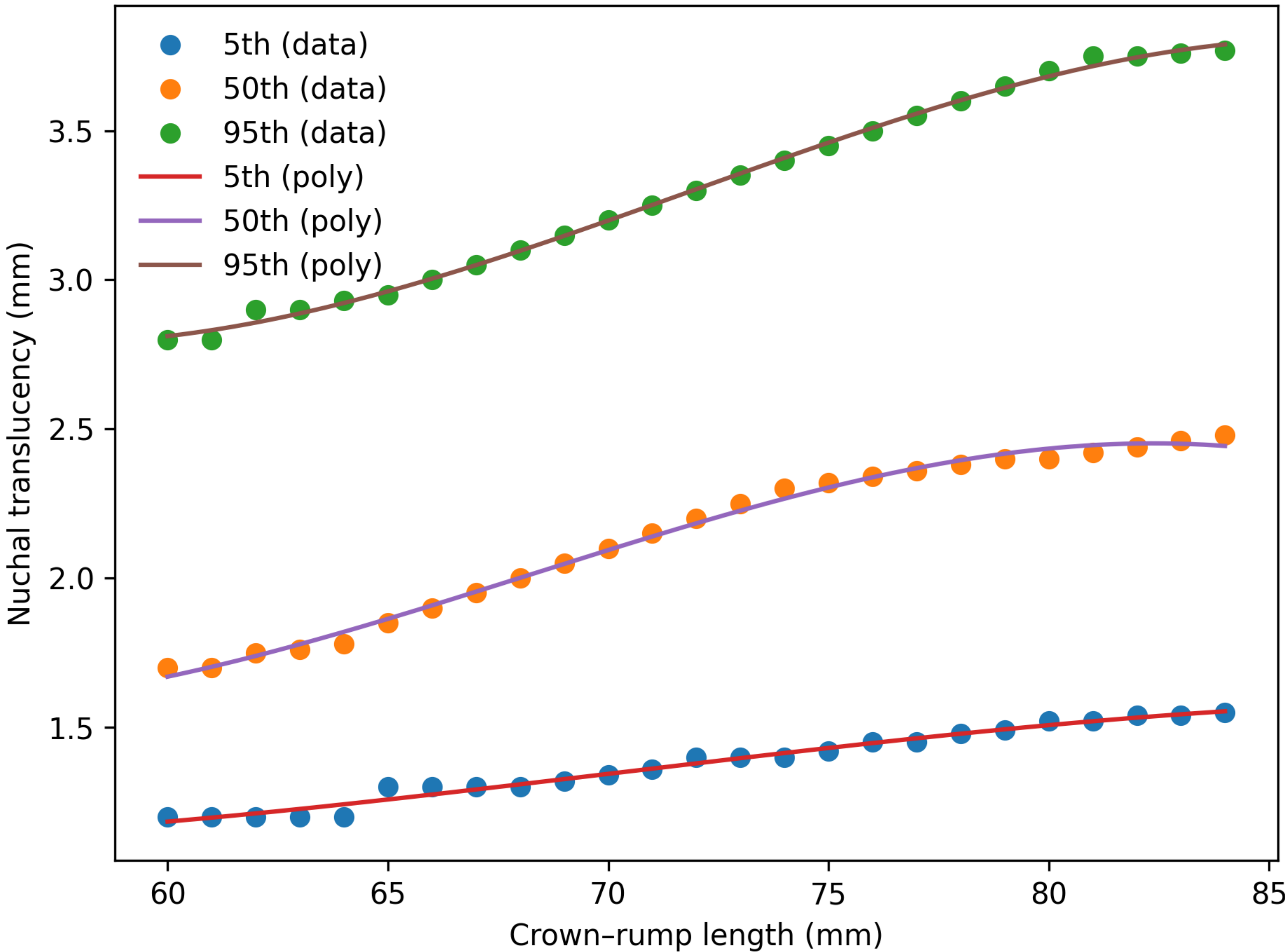


Table 1: Nomogram of NT in CRL 60-84 mm:5th, 50th and 95th centile

CRL (mm)	NT5th (mm)	NT50th (mm)	NT95th (mm)
60	1.2	1.7	2.8
61	1.2	1.7	2.8
62	1.2	1.75	2.9
63	1.2	1.76	2.9
64	1.2	1.78	2.93
65	1.3	1.85	2.95
66	1.3	1.9	3
67	1.3	1.95	3.05
68	1.3	2	3.1
69	1.32	2.05	3.15
70	1.34	2.1	3.2
71	1.36	2.15	3.25
72	1.4	2.2	3.3
73	1.4	2.25	3.35
74	1.4	2.3	3.4
75	1.42	2.32	3.45
76	1.45	2.34	3.5
77	1.45	2.36	3.55
78	1.48	2.38	3.6
79	1.49	2.4	3.65
80	1.52	2.42	3.7
81	1.52	2.43	3.75
82	1.54	2.44	3.75
83	1.54	2.46	3.76
84	1.55	2.48	3.77

Polynomial equations for Nuchal translucency in Indian Population:

Form: $NT = a \times CRL^3 + b \times CRL^2 + c \times CRL + d$ (valid for CRL 60–84 mm).

5th centile NT = $(-1.469544948e-05) \times CRL^3 + (0.003101753319) \times CRL^2 + (-0.2005824465) \times CRL + (5.226462187)$

50th centile (median)NT = $(-7.727216423e-05) \times CRL^3 + (0.01580542887) \times CRL^2 + (-1.03089707) \times CRL + (23.31456517)$

95th centile NT = $(-8.418634506e-05) \times CRL^3 + (0.01815991014) \times CRL^2 + (-1.252890325) \times CRL + (30.79317984)$