



EP07.61 Lower fetal growth percentile in a Saudi population using the Hadlock standard: Multi-center cohort study.

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Introduction

This study assesses the average estimated fetal weight in the Saudi population using the Hadlock method. It aims to describe fetal growth patterns and explore their relationship with selected maternal and neonatal factors, providing local data that may help improve antenna assessment and clinical decisions-making.

Aim

- Mean estimated fetal weight using the Hadlock method.
- Growth centile distribution.
- Association between growth centiles and neonatal outcomes.

Methods

A Retrospective Cohort Study involving 1,789 pregnancies

Study period: November 2019 – 2023.

Multi-center (National Guard Hospitals in Riyadh, Medina and Jeddah).

Inclusion: Saudi women with routine anatomy ultrasound between 16 and 24 weeks .

Exclusion: - Late booking. - uncertain last menstrual period

Fetal growth centiles were determined using the Hadlock growth standard

Result and discussion

MATERNAL AND NEONATAL CHARACTERISTICS					
Variable	N	Mean ± SD	Median (IQR)	Minimum	Maximum
Maternal Age (years)	1725	32.00 ± 5.89	32 (27–37)	16	49
Gravida	1726	4.17 ± 2.80	4 (2–6)	0	33
Parity	1726	2.43 ± 2.12	2 (1–4)	0	11
BMI (kg/m²)	1717	29.66 ± 6.23	29 (25.55–33.02)	15.6	84.22
Growth Percentile	1562	27.46 ± 24.29	21 (8–40)	1	99
Estimated Fetal Weight (g)	1724	455.87 ± 230.45	439 (329–556)	0	3628
Birth Weight (g)	1570	2973.57 ± 917.71	3025 (2690–3338.75)	0.57	30035

N: Number of observations; SD: Standard Deviation; IQR: Interquartile Range

NICU ADMISSION AND GROWTH PERCENTILE				STATISTICAL TEST	
NICU Admission	N	Mean Growth Percentile ± SD	Median (IQR)	Statistical Test	Value
No	1468	27.47 ± 23	21 (8–40)	Test used	Mann-Whitney U test
Yes	92	26.73 ± 28	15.5 (6–41)	U statistic	74384
				p-value	0.102

SD: Standard Deviation; IQR: Interquartile Range
p-value < 0.05 considered statistically significant.

MATERNAL CLINICAL CHARACTERISTICS (N = 1726)			
Variable	Category	N	Percentage (%)
Maternal Hypertension	No	1648	95.48
	Yes	78	4.52
Maternal Preeclampsia	No	1685	97.62
	Yes	41	2.38
Maternal Smoking	No	1715	99.36
	Yes	11	0.64
Maternal Diabetes	No	1275	73.87
	Yes	429	24.86
	DM2	18	1.04
	GDM	4	0.23
Mode of Delivery	Spontaneous Vaginal Delivery	1010	58.5
	Instrumental Vaginal Delivery	9	0.5
	Cesarean Section	571	33.1
	Unknown	136	7.9
NICU Admission	No	1487	86.15
	Yes	98	5.68
	Unknown	141	8.17
Preterm Labor	No	1519	88
	Yes	183	10.6
	Unknown	24	1.4

N: Number of participants; %: Percentage of total (N = 1726)

Conclusion

In this Saudi cohort, Hadlock based growth charts were shifted to the lower percentiles, classifying many as small for gestational age without clear links to maternal age or NICU admission. This highlights the need for population-specific standards and further evaluation through multi-center studies in the Middle East.

