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Original Article

Body Weight, Length and Head Circumference at Birth in a Cohort of Turkish Newborns

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ABSTRACT

Objective: Intrauterine growth references are primarily useful indicators in the assessment of the general health status of newborn infants. Although Lubchenco's references are still used in many neonatal care units, we believe that there is a need for up-to-date intrauterine growth references specific for different populations. To develop gestational age-and gender-specific national references for birth weight, birth length and head circumference.

Methods: Data were collected from neonatal records of perinatology services of eleven hospitals from January to December 2009. The anthropometry of a total of 4750 singleton live births born between 28 and 41 weeks of gestation were recorded. Means and standard deviations were calculated, and percentiles for each gender and gestational week were produced using the LMS program. The results were compared with US infants and also with local data.

Results: Gestational age- and gender-specific 3rd, 5th, 10th, 15th, 25th, 50th, 75th, 85th, 90th, 95th and 97th percentile values were produced. Comparison of the 10th, 50th and 90th percentile values showed that the boys were heavier and longer than the girls. Head circumference values were also higher in the boys. Proportions of small for gestational age (SGA), appropriate for gestational age (AGA) and large for gestational age (LGA) infants in the sample were 10.1%, 79.1% and 10.8%, respectively.

Conclusion: These gender- and gestational age-specific references will be of use in clinical practice and also for research purposes until more comprehensive, reliable and accessible national data pertaining to the intrauterine growth of Turkish infants are produced.

Key words: Intrauterine growth percentiles, SGA, LGA

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Introduction

Body weight, length and head circumference at birth are measurements used in the assessment of peri- and postnatal growth and health. However, for evaluation of fetal growth, it is essential to know the gestational age-adjusted birth weight, length and head circumference (1). It is known that there is a significant relationship between preterm birth and neonatal complications, mortality and developmental delay (2). The abnormal birth weight of infants who are small for gestational age (SGA) or of those who are large for gestational age (LGA) is also related with birth complications as well as with an increased risk of cardiovascular disease, obesity and hypertension in later life (3,4,5).

Producing gestational age-specific percentiles provides the opportunity to determine SGA and LGA infants. Another application of intrauterine percentiles is in predicting whether a preterm infant will be able to maintain his/her growth velocity or achieve catch-up growth in postnatal life (6). In 1966, Lubchenco et al (7) produced the first intrauterine growth reference charts which were based on a small sample of newborns whose mothers' socioeconomic level was low. These were the first and most frequently used reference charts until 1976, when another set of reference charts based on a relatively large sample size was published (8). Neither of these references may be representative of current populations.

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It is known that fetal, maternal, placental and environmental factors may all influence fetal growth (9). Geographic location also plays a significant role. Thus, intrauterine growth reference values, as is also true for other anthropometric measurements, are variable in different populations and regions even in the same country (10,11,12).

In Turkey, there are a few studies on intrauterine growth, which were conducted in single centers or with small sample sizes. Another limitation of these studies is that either they are based on a single parameter like birth weight or they are not detailed enough to get gestational age-specific percentiles (13,14,15,16,17).

This study was designed to produce gestational age- and gender-adjusted percentile charts in a cohort of Turkish newborns born in a city in the Central Anatolian Region of Turkey. These references will also serve to determine the prevalence of appropriate, SGA and LGA newborns in the community.

Methods

This is a cross-sectional and retrospective study in which data were collected from the medical records of infants born between January and December 2009 in 11 hospitals in Kayseri, a Central Anatolian city in Turkey. 65% of the deliveries had taken place in private, 26% in state and 9% in University hospitals. Gestational ages were recorded by the obstetricians or trained nurses in labor wards. A total of 5421 infants born at gestational ages between 28-42 weeks were recruited. Since the numbers of infants between 28-33 and 41-42 weeks of gestation were too small, we combined these age groups as 28-29, 30-31, 32-33 and 41-42 weeks. We excluded infants whose mothers had chronic diseases, who were smokers or who had undergone multiple deliveries. Infants who had fetal health problems, congenital malformations and those with missing data for measurements of weight, length or head circumference were also excluded. To get a smooth distribution for weight, length and head circumference percentiles, we also removed the original data less than 3rd percentiles or higher than the 97th percentiles. Finally, we used the data from 4750 infants to produce our charts.

Preterm delivery was defined as birth before completion of 38 weeks of gestation. SGA was defined as a low measurement than normal according to gestational age and gender. The 10th percentile and 90th percentile cut-off values were used to define SGA and LGA.

Statistical Analysis

Descriptive statistics for each gestational age within sex were performed using the SPSS version 15.0 (Chicago, IL, USA).

To construct the gestational age- and gender-specific 3rd, 10th, 15th, 25th, 50th, 75th, 85th, 90th and 97th percentile curves for birth weight, length and head circumference, we used the LMS Chart Maker Pro version 2.3 software program (The Institute of Child Health, London), which fits smooth centile curves to reference data. This method summarizes percentiles at each gestational age based on the power of age-specific Box-Cox power transformations that are used to normalize data. These three quantities depend on gestational age. The final curves of percentiles are produced by three smooth curves representing L (lambda, skewness), M (mu, median) and S (sigma, coefficient of variation). The calculated 10th, 50th, and 90th percentiles were compared with the available data on USA infants since both studies were conducted in similar periods. To make local comparisons, we used the most recent study in which 3rd, 10th, 50th, 90th, 97th percentiles for term infants of both genders were reported.

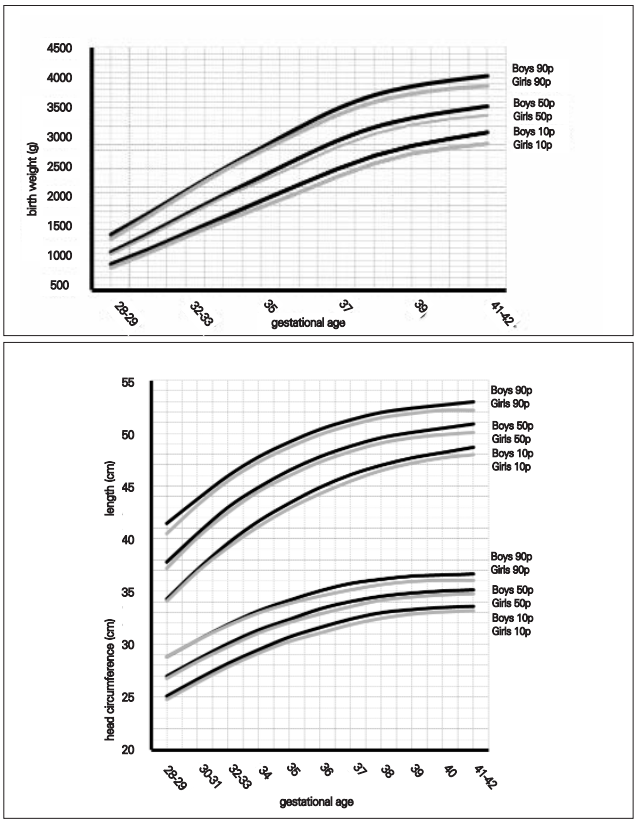

Figure 1. Comparison of 10th, 50th and 90th centiles in male and female neonates for birth weight, birth length and head circumference at birth

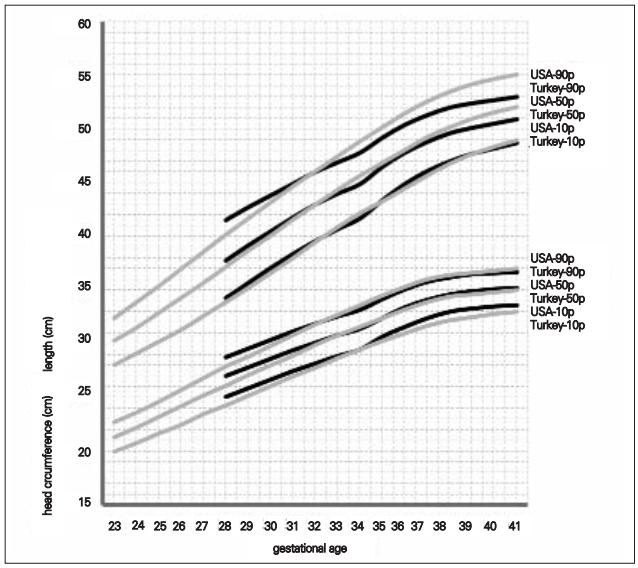

Figure 2. Comparison of 10th, 50th and 90th centiles in Turkish and US newborns for birth weight, birth length and head circumference at birth (boys)

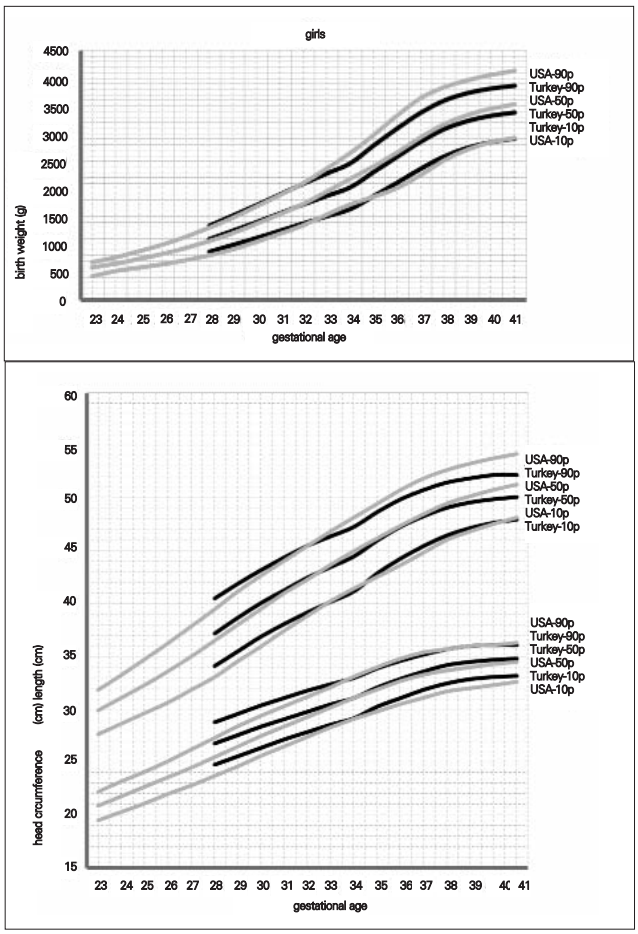

Figure 3. Comparison of 10th, 50th and 90th centiles in Turkish and US newborns for birth weight, birth length and head circumference at birth (girls)

Results

There were 2493 (52.5%) male and 2257 (47.5%) female infants included in the study. 39.4% of the infants were preterm and 60.6% were term newborns. Gestational age- and gender-specific descriptive values including birth weight, length and head circumference are shown in Table 1. The gestational age- and gender-specific 3rd, 5th, 10th, 15th, 25th, 50th, 75th, 85th, 90th, 95th and 97th percentile values for all parameters are shown in Tables 2, 3, 4, 5, 6, 7.

Comparison of the 10th, 50th and 90th percentiles between genders showed that boys were heavier and longer than girls. Head circumference measurements were also higher in the boys. The largest differences between male and female infants at birth were less than 200 g for weight, 0.8 cm for length and 0.6 cm for head circumference (Figure 1).

The distribution of SGA, appropriate for gestational age (AGA) and LGA was 10.1%, 79.1% and 10.8%, respectively.

Since there were no comparable data available from local studies, we compared our data with the 10th, 50th and 90th percentile values reported for USA infants in a recent study conducted on infants born after 32 weeks of gestation. USA percentiles were all higher than our data (18). The maximum

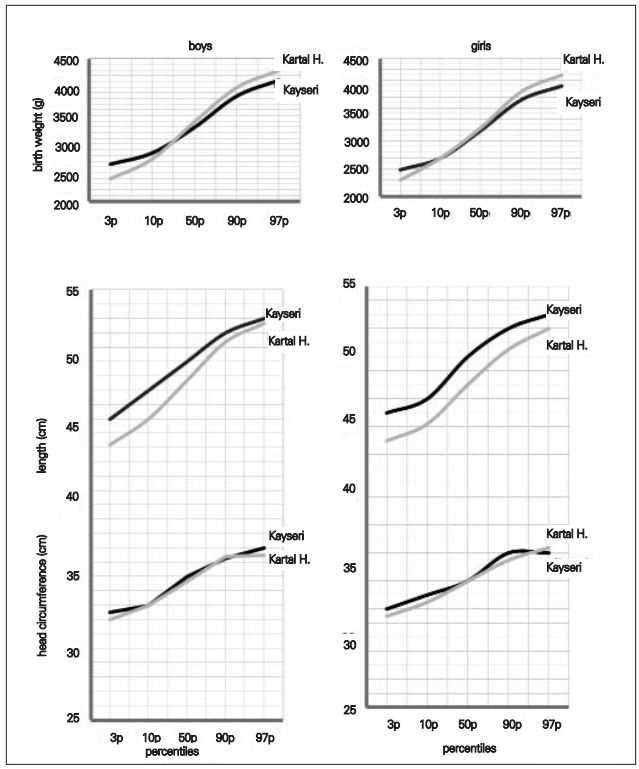

Figure 4. Comparison of 10th, 50th and 90th centiles of the Kayseri and Kartal Hospital samples for birth weight, birth length and head circumference at birth

differences between the 90th percentile values were 286 g in the boys and 263 g in the girls for weight, 2 cm in both genders for length, as well as 1 cm in the boys and 1.5 cm in the girls for head circumference (Figures 2, 3).

We also compared graphically the 3rd, 10th, 50th, 90th and 97th percentiles obtained for our term infants with those reported in the Kartal Hospital study on term neonates. We found that birth weight in our term infants of both genders was approximately 200 g higher in the 3rd and 10th percentiles, but lower in the 90th and 97th percentiles (17). There was no detectable difference between head circumferences in the two studies in either gender. The apparent difference between these two studies was in length at birth. The differences between the 3rd and 10th percentile values in the two studies were approximately 2 cm in both genders, but in the higher percentile groups, this difference decreased to 0.3 cm in boys and 1 cm in girls (Figure 4).

Discussion

This study was designed to produce intrauterine growth percentiles. Weight, length and head circumference are regarded as the fundamental anthropometric measurements which are used by physicians (pediatricians, family physicians, gynecologists and obstetricians) in their clinical practice as well as by parents who desire to assess and follow the actual and future growth pattern of their siblings. Gestational age- and gender-specific anthropometric references also provide a basis for estimation of SGA and LGA prevalences and data for comparison with other studies. SGA infants have adverse outcomes other than growth problems such as neurodevelopmental delay (19,20). LGA infants are at risk for early hypoglycemia and metabolic syndrome in later years (21,22). Both preterm infants, especially those born younger than 32 weeks of gestation, and full-term SGA infants carry long-term health risks. These risks include adiposity and obesity (23,24). Intrauterine growth curves are the easiest and most reliable measure to predict these risks. All previous studies that were available to us were either conducted in a single hospital or did not report data for each gestational week or gender.

We believe that the contribution of this study is to have produced gestational age-and gender-specific percentiles based on a population of neonates from several hospitals in a quite large city. To date, the 3rd, 5th, and 10th birth weight percentiles have been used as cut-off values to identify clinically important fetal growth restriction (25). On the other hand, according to a consensus statement from an independent panel of pediatrics endocrinologists, SGA can be defined as a state of having a birth weight and/or length of at least 2 standard deviations (SD) below the mean for gestational age (26). The cut-off values for LGA, on the other hand, have been set at the 90th, 95th or 97th percentile by different investigators (27,28). This present study provides data for use of different criteria to define SGA. In our study, when the 10th and 90th percentiles were used as the cut-off values, the prevalences of SGA and LGA were found as 10.1% and 10.8%, respectively.

Table 1. Gender-/gestational age-specific mean±standard deviation (SD) values for birth weight, length and head circumference (HC)

Gestational age	Boys			Girls		
	Birth weight (g) mean±SD	Length (cm) mean±SD	HC (cm) mean±SD	Birth weight (g) mean±SD	Length (cm) mean±SD	HC (cm) mean±SD
28-29 weeks	1179.1±193.4	38.2±2.5	26.6±1.4	1114.4±181.9	37.4±2.2	26.3±1.5
30-31 weeks	1412.0±246.7	40.0±2.8	28.4±1.5	1390.8±240.0	39.9±2.6	28.5±1.7
32-33 weeks	1782.6±241.6	42.9±2.5	30.3±1.4	1742.5±265.3	42.2±2.3	29.7±1.6
34 weeks	2133.0±285.6	45.0±2.6	32.3±1.7	2076.1±308.9	44.6±2.7	31.5±1.3
35 weeks	2333.4±380.1	46.2±2.5	32.3±1.7	2311.5±369.3	45.8±2.3	32.1±1.4
36 weeks	2662.1±367.1	47.5±2.2	33.3±1.3	2593.5±392.9	47.2±2.3	32.9±1.4
37 weeks	3002.6±431.9	48.9±2.0	34.2±1.3	2863.8±408.1	48.2±1.9	33.6±1.3
38 weeks	3246.9±379.4	49.7±1.9	34.6±1.2	3103.7±409.4	49.1±2.1	34.2±1.3
39 weeks	3351.9±351.6	50.0±1.8	34.9±1.3	3234.9±367.7	49.5±1.7	34.5±1.2
40 weeks	3460.0±388.7	50.6±1.9	35.1±1.2	3351.7±368.9	50.0±1.8	34.7±1.2
41-42 weeks	3481.5±384.2	50.5±1.6	35.1±1.3	3315.2±389.0	49.6±1.5	34.4±1.3

There are several previous studies reporting gender difference for birth weight and length throughout pregnancy or at a certain gestational week (17,18,19,29). Our data also revealed that percentile values were higher in the males than in the females after the 35th week of gestation. The gender difference significantly increased in the 90th percentile range for all anthropometric measurements.

Data from a global survey showed variations in birth weight among several countries. In this report, birth weight in term infants varied from 2790 g in India to 3511 g in Algeria (30,31). Comparing our data with those of USA newborns, we found that the percentile values of the neonates in our sample were somewhat higher before 32 weeks of gestation. After the first 32-35 weeks of gestation, USA percentiles were strikingly higher than the percentile values in our study (Figures 2 and 3). The potential contributory factors for this difference may be genetics and race, maternal size, maternal nutrition during pregnancy, smoking and other environmental determinants.

Comparing our results with data from other national studies, such as the Kartal Hospital data (17), we found that our term

Table 2. Birth weight percentiles by gestational age (boys)

Gestational age	Birth weight (g)													
	L	M	S	3	5	10	15	25	50	75	85	90	95	97
28-29 weeks	-0.581	1130.8	0.165	849.8	878.6	926.1	960.4	1015.0	1130.8	1268.9	1354.3	1417.4	1520.0	1593.0
30-31 weeks	-0.239	1435.3	0.159	1076.1	1114.5	1177.0	1221.6	1291.5	1435.3	1599.5	1697.2	1767.6	1878.7	1955.6
32-33 weeks	-0.041	1758.9	0.153	1321.6	1369.6	1447.1	1501.9	1586.9	1758.9	1950.3	2061.8	2141.1	2264.5	2348.6
34 weeks	0.091	2076.1	0.148	1566.4	1623.4	1714.9	1779.2	1878.2	2076.1	2292.8	2417.4	2505.2	2640.7	2732.2
35 weeks	0.185	2378.7	0.143	1806.3	1871.2	1974.9	2047.5	2158.6	2378.7	2616.8	2752.3	2847.3	2993.1	3090.9
36 weeks	0.238	2682.1	0.136	2058.1	2129.6	2243.4	2322.7	2443.8	2682.1	2937.8	3082.4	3183.4	3337.6	3440.8
37 weeks	0.252	2966.3	0.129	2308.2	2384.1	2504.6	2588.4	2716.0	2966.3	3233.4	3384.0	3488.8	3648.8	3755.5
38 weeks	0.221	3190.6	0.121	2523.8	2600.9	2723.2	2808.1	2937.4	3190.6	3460.4	3612.4	3718.2	3879.5	3987.1
39 weeks	0.159	3341.7	0.114	2685.3	2761.2	2881.5	2965.1	3092.3	3341.7	3607.7	3757.7	3862.2	4021.6	4128.0
40 weeks	0.085	3448.8	0.108	2809.4	2883.2	3000.3	3081.7	3205.6	3448.8	3708.7	3855.5	3957.9	4114.2	4218.8
41-42 weeks	0.010	3537.0	0.102	2916.7	2988.2	3101.7	3180.6	3300.9	3537.0	3790.0	3933.0	4032.8	4185.5	4287.7

L: lambda, skewness, M: mu, median, S: sigma, coefficient of variation

Table 3. Birth weight percentiles by gestational age (girls)

Gestational age	Birth weight (g)													
	L	M	S	3	5	10	15	25	50	75	85	90	95	97
28-29 weeks	0.531	1096.1	0.170	771.6	809.3	869.2	910.7	973.6	1096.1	1225.5	1297.6	1347.6	1423.3	1473.5
30-31 weeks	0.477	1400.0	0.167	995.8	1042.6	1116.8	1168.4	1246.8	1400.0	1562.5	1653.6	1716.8	1812.7	1876.5
32-33 weeks	0.420	1722.8	0.164	1238.8	1294.5	1383.0	1444.7	1538.6	1722.8	1919.2	2029.7	2106.6	2223.6	2301.6
34 weeks	0.376	2031.3	0.160	1475.8	1539.5	1640.8	1711.5	1819.3	2031.3	2258.0	2385.9	2475.0	2610.9	2701.6
35 weeks	0.358	2308.5	0.155	1695.5	1765.9	1877.8	1955.8	2074.7	2308.5	2558.6	2699.7	2798.0	2947.9	3048.0
36 weeks	0.378	2583.8	0.148	1924.0	2000.2	2121.2	2205.3	2333.2	2583.8	2850.4	3000.2	3104.4	3262.9	3368.5
37 weeks	0.452	2855.5	0.139	2163.4	2244.5	2372.5	2461.1	2595.2	2855.5	3129.5	3282.2	3387.9	3548.0	3654.1
38 weeks	0.523	3081.9	0.128	2382.1	2465.2	2595.8	2685.7	2821.1	3081.9	3353.7	3504.1	3607.7	3764.0	3867.1
39 weeks	0.548	3231.0	0.120	2541.2	2623.7	2752.9	2841.7	2975.1	3231.0	3496.5	3642.8	3743.5	3894.9	3994.7
40 weeks	0.559	3324.1	0.114	2645.2	2726.6	2854.1	2941.5	3072.8	3324.1	3584.1	3727.2	3825.5	3973.2	4070.5
41-42 weeks	0.565	3381.6	0.111	2710.7	2791.3	2917.5	3003.9	3133.6	3381.6	3637.8	3778.6	3875.3	4020.6	4116.2

L: lambda, skewness, M: mu, median, S: sigma, coefficient of variation

infants had higher length but lower weight and similar head circumferences (Figure 4). This finding may be explained by socioeconomic differences, but it must be noted that the reported data were produced from the measurements of newborns in a single hospital.

The potential limitations of this present study can be listed as the possibility of measurement errors in preterm neonates, the use of a cross-sectional method which limits the monitoring of the actual growth pattern, collection of data from different hospitals, the relatively small sample size, and the potential errors due to the reporting of the last menstrual period. However, this study provides a quite large sample size and detailed information. Both the percentile and the mean and standard deviation values we report can be used in comparisons with national or international data. We believe that these data will be of use both in clinical practice and for research purposes until more comprehensive, reliable and accessible national data pertaining to the intrauterine growth of Turkish infants are produced.

Table 4. Birth length percentiles by gestational age (boys)

Gestational age	Birth length(cm)													
	L	M	S	3	5	10	15	25	50	75	85	90	95	97
28-29 weeks	0.424	37.8	0.075	32.7	33.3	34.3	34.9	35.9	37.8	39.7	40.8	41.5	42.6	43.4
30-31 weeks	1.290	40.5	0.065	35.4	36.1	37.1	37.7	38.7	40.5	42.3	43.2	43.8	44.8	45.4
32-33 weeks	2.091	43.0	0.058	37.9	38.6	39.6	40.3	41.2	43.0	44.6	45.5	46.0	46.9	47.4
34 weeks	2.658	44.9	0.053	40.0	40.7	41.7	42.4	43.3	44.9	46.5	47.3	47.8	48.6	49.1
35 weeks	3.013	46.5	0.048	41.8	42.5	43.4	44.0	44.9	46.5	48.0	48.7	49.2	49.9	50.4
36 weeks	3.118	47.8	0.044	43.4	44.0	44.9	45.5	46.3	47.8	49.2	49.9	50.4	51.0	51.5
37 weeks	3.016	48.8	0.041	44.7	45.3	46.1	46.7	47.4	48.8	50.2	50.8	51.3	51.9	52.4
38 weeks	2.783	49.6	0.039	45.7	46.3	47.0	47.5	48.3	49.6	50.9	51.5	52.0	52.6	53.0
39 weeks	2.484	50.1	0.037	46.5	47.0	47.7	48.2	48.9	50.1	51.4	52.0	52.4	53.0	53.4
40 weeks	2.177	50.5	0.035	47.1	47.6	48.2	48.7	49.3	50.5	51.7	52.3	52.7	53.3	53.7
41-42 weeks	1.892	50.9	0.033	47.6	48.0	48.7	49.1	49.7	50.9	52.0	52.6	53.0	53.6	54.0

L: lambda, skewness, M: mu, median, S: sigma, coefficient of variation

Table 5. Birth length percentiles by gestational age (girls)

Gestational age	Birth length (cm)													
	L	M	S	3	5	10	15	25	50	75	85	90	95	97
28-29 weeks	0.411	37.2	0.067	32.7	33.2	34.1	34.7	35.5	37.2	38.9	39.8	40.5	41.4	42.0
30-31 weeks	1.558	40.1	0.061	35.3	36.0	36.9	37.5	38.5	40.1	41.8	42.6	43.2	44.1	44.6
32-33 weeks	2.300	42.5	0.057	37.6	38.2	39.2	39.9	40.8	42.5	44.1	44.9	45.5	46.2	46.8
34 weeks	2.829	44.5	0.053	39.6	40.2	41.2	41.9	42.8	44.5	46.0	46.8	47.3	48.1	48.5
35 weeks	3.178	46.0	0.049	41.3	41.9	42.9	43.5	44.4	46.0	47.5	48.2	48.7	49.5	49.9
36 weeks	3.307	47.3	0.046	42.8	43.4	44.3	44.9	45.8	47.3	48.7	49.4	49.9	50.6	51.0
37 weeks	3.186	48.3	0.042	44.1	44.7	45.5	46.1	46.9	48.3	49.7	50.3	50.8	51.5	51.9
38 weeks	2.782	49.1	0.040	45.2	45.7	46.5	47.0	47.8	49.1	50.4	51.1	51.5	52.2	52.6
39 weeks	2.093	49.6	0.037	46.0	46.5	47.2	47.7	48.4	49.6	50.9	51.5	51.9	52.6	53.0
40 weeks	1.279	49.9	0.035	46.6	47.0	47.7	48.1	48.7	49.9	51.1	51.7	52.2	52.8	53.2
41-42 weeks	0.484	50.1	0.033	47.0	47.4	48.0	48.4	49.0	50.1	51.2	51.8	52.2	52.8	53.2

L: lambda, skewness, M: mu, median, S: sigma, coefficient of variation

Table 6. Head circumference percentiles at birth by gestational age (boys)

Gestational age	Head circumference (cm)													
	L	M	S	3	5	10	15	25	50	75	85	90	95	97
28-29 weeks	2.731	27.0	0.053	24.1	24.5	25.1	25.5	26.0	27.0	28.0	28.4	28.8	29.2	29.5
30-31 weeks	2.211	28.6	0.050	25.7	26.1	26.7	27.1	27.6	28.6	29.6	30.1	30.4	30.9	31.2
32-33 weeks	1.729	30.1	0.048	27.3	27.7	28.2	28.6	29.1	30.1	31.1	31.6	31.9	32.4	32.7
34 weeks	1.358	31.4	0.045	28.7	29.0	29.5	29.9	30.4	31.4	32.3	32.8	33.2	33.7	34.0
35 weeks	1.153	32.4	0.043	29.8	30.1	30.7	31.0	31.5	32.4	33.4	33.9	34.2	34.7	35.0
36 weeks	1.085	33.4	0.040	30.8	31.1	31.6	32.0	32.4	33.4	34.3	34.7	35.1	35.6	35.9
37 weeks	1.164	34.1	0.038	31.7	32.0	32.4	32.8	33.2	34.1	35.0	35.4	35.8	36.2	36.5
3 8 weeks	1.360	34.6	0.036	32.2	32.5	33.0	33.3	33.8	34.6	35.5	35.9	36.2	36.7	37.0
39 weeks	1.555	34.9	0.035	32.5	32.8	33.3	33.6	34.1	34.9	35.7	36.2	36.5	36.9	37.2
40 weeks	1.589	35.1	0.035	32.7	33.0	33.5	33.8	34.3	35.1	35.9	36.3	36.6	37.1	37.3
41-42 weeks	1.555	35.2	0.034	32.9	33.2	33.6	33.9	34.4	35.2	36.0	36.4	36.7	37.1	37.4

L: lambda, skewness, M: mu, median, S: sigma, coefficient of variation

Table 7. Head circumference percentiles at birth by gestational age (girls)

Gestational age	Head circumference (cm)													
	L	M	S	3	5	10	15	25	50	75	85	90	95	97
28-29 weeks	0.829	26.8	0.058	23.9	24.3	24.8	25.2	25.8	26.8	27.9	28.5	28.8	29.4	29.8
30-31 weeks	0.904	28.4	0.055	25.5	25.8	26.4	26.8	27.3	28.4	29.4	30.0	30.4	30.9	31.3
32-33 weeks	1.066	29.8	0.051	27.0	27.3	27.9	28.2	28.8	29.8	30.9	31.4	31.8	32.3	32.7
34 weeks	1.313	31.1	0.047	28.3	28.6	29.2	29.6	30.1	31.1	32.1	32.6	33.0	33.5	33.8
35 weeks	1.695	32.1	0.044	29.4	29.7	30.3	30.6	31.2	32.1	33.1	33.6	33.9	34.4	34.7
36 weeks	2.227	32.9	0.041	30.3	30.6	31.1	31.5	32.0	32.9	33.8	34.3	34.6	35.1	35.4
37 weeks	2.848	33.6	0.039	31.0	31.4	31.9	32.2	32.7	33.6	34.5	34.9	35.2	35.7	35.9
3 8 weeks	3.445	34.2	0.037	31.6	32.0	32.5	32.8	33.3	34.2	35.0	35.4	35.7	36.1	36.4
39 weeks	3.942	34.5	0.035	32.0	32.4	32.9	33.2	33.7	34.5	35.3	35.7	36.0	36.4	36.6
40 weeks	4.421	34.7	0.034	32.2	32.6	33.1	33.4	33.9	34.7	35.5	35.9	36.1	36.5	36.7
41-42 weeks	4.982	34.8	0.033	32.3	32.6	33.2	33.5	34.0	34.8	35.5	35.9	36.1	36.5	36.7

L: lambda, skewness, M: mu, median, S: sigma, coefficient of variation

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