

Supplementary Online Content

Fieß A, Schuster AK, Nickels S, et al. Association of low birth weight with altered corneal geometry and axial length in adulthood in the German Gutenberg Health Study. *JAMA Ophthalmol*. Published online February 21, 2019. doi:10.1001/jamaophthalmol.2018.7121

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Characteristics of the Study Sample (n = 12 423) and Ocular Geometric Variables of the Gutenberg Health Study by Reported and Missed Birth Weight Groups Adjusted for Sex and Age

Mean ± Standard Deviation or Median and 25%/75% Quantiles. g- gram; mm-millimeter; dpt – diopter; AMD - age-related macular degeneration; OD - right eye; OS – left eye

Variable	Reported BW (7183)	missing BW (5240)	P Value
Sex (Women)	52.2% (3751)	44.2% (2314)	<.001
Age [y]	56.22±10.34	63.97±9.88	<.001
Parameters adjusted for age and sex			
Eye:			
Glaucom (yes)	3.4% (245)	3.0% (157.4)	.21
AMD (yes)	1.4% (100)	1.6% (81.6)	.45
Lenstar: (OD)			
Mean corneal radius [mm] (OD)	7.78±0.28	7.75±0.26	<.001
White-to-white distance [mm] (OD)	12.23±0.43	12.18±0.43	<.001
Central corneal thickness [mm] (OD)	550.0±34.9	549.3±35.1	.32
Anterior chamber depth [mm] (OD)	3.28±0.36	3.26±0.35	.045
Lens thickness [mm] (OD)	4.31±0.36	4.31±0.36	.83
Axial length [mm] (OD)	23.81±1.28	23.67±1.22	<.001
Lenstar: (OS)			
Mean corneal radius [mm] (OS)	7.77±0.28	7.75±0.27	.001
White-to-white distance [mm] (OS)	12.24±0.43	12.19±0.44	<.001
Central corneal thickness [mm] (OS)	550.2±35.0	549.5±36.0	.31
Anterior chamber depth [mm] (OS)	3.26±0.35	3.24±0.34	.008
Lens thickness [mm] (OS)	4.37±0.35	4.37±0.34	.78
Axial length [mm] (OS)	23.77±1.29	23.64±1.23	<.001

**eTable 2. Associations of Ocular Geometry with Birth Weight (n = 7120)
Adjusted for Age, Sex, Socioeconomic Status, and Ocular Comorbidities**

Birth weight (per 100 g)	Model 1#	
	B [95% CI]	P Value
Mean corneal radius (mm)	0.005 [0.0046; 0.006]	<.001
White to white (mm)	0.006 (0.005; 0.007)	<.001
Central corneal thickness (μm)	0.339 (0.241; 0.436)	<.001
Anterior chamber depth (mm)	-0.0001 (-0.001; 0.001)	.081
Lens thickness (mm)	-0.001 (-0.002; 0.0002)	.13
Axial length (mm)	0.006 (0.002; 0.010)	<.001

Data from the Gutenberg Health Study. Linear regression analysis using generalized estimating equations to control for correlations between right and left eyes.

Model with adjustments for sex, age, socio-economic status (SES) and ocular comorbidities such as glaucoma and age-related macular degeneration.

eTable 3. Associations of Ocular Morphologic Variables With Birth Weight Groups in the Gutenberg Health Study Adjusted for Sex, Age, Socioeconomic Status, and Ocular Comorbidities

	Model 1#	
	B [95% CI]	P Value
Mean corneal radius (mm)		
Birth weight < 2500 g	-0.08 [-0.10; -0.06]	<.001
Birth weight 2500 g – 4000 g	Reference	
Birth weight > 4000 g	0.06 [0.04; 0.07]	<.001
White to white (mm)		
Birth weight < 2500 g	-0.09 [-0.12; -0.06]	<.001
Birth weight 2500 g – 4000 g	Reference	
Birth weight > 4000 g	0.06 [0.04; 0.09]	<.001
Central corneal thickness (µm)		
Birth weight < 2500 g	-4.43 [-7.21; -1.65]	.001
Birth weight 2500 g – 4000 g	Reference	
Birth weight > 4000 g	5.11 [3.17; 7.04]	<.001
Anterior chamber depth (mm)		
Birth weight < 2500 g	0.03 [-0.001; 0.06]	.054
Birth weight 2500 g – 4000 g	Reference	
Birth weight > 4000 g	-0.03 [-0.05; -0.006]	.010
Lens thickness (mm)		
Birth weight < 2500 g	-0.02 (-0.05; 0.01)	.12
Birth weight 2500 g – 4000 g	Reference	
Birth weight > 4000 g	0.01 (-0.01; 0.02)	.61
Axial length (mm)		
Birth weight < 2500 g	-0.06 (-0.17; 0.04)	.24
Birth weight 2500 g – 4000 g	Reference	
Birth weight > 4000 g	0.02 (-0.05; 0.09)	.56

Low birth weight n = 382; normal birth weight n = 5837; high birth weight n = 901. Linear regression analysis using generalized estimating equations to control for correlations between right and left eyes.

Model with adjustments for sex, age, socio-economic status (SES) and ocular comorbidities such as glaucoma and age-related macular degeneration.