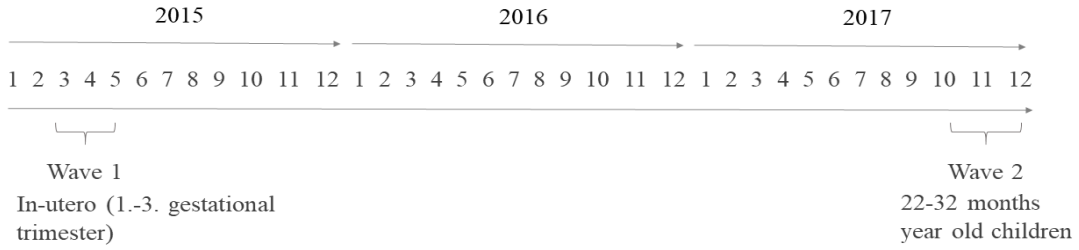
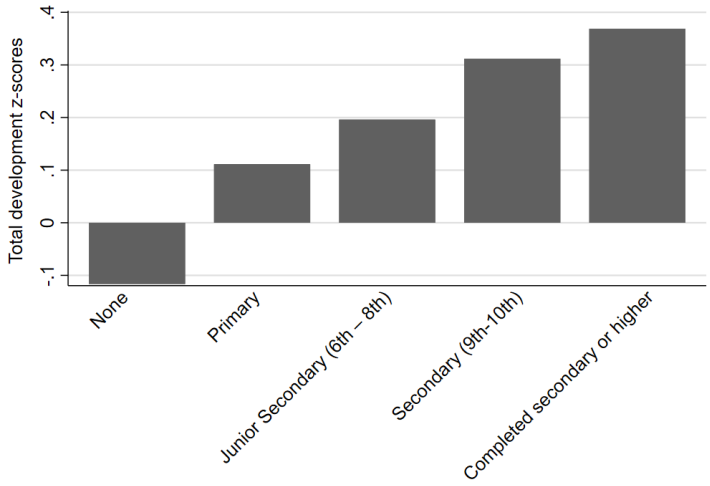
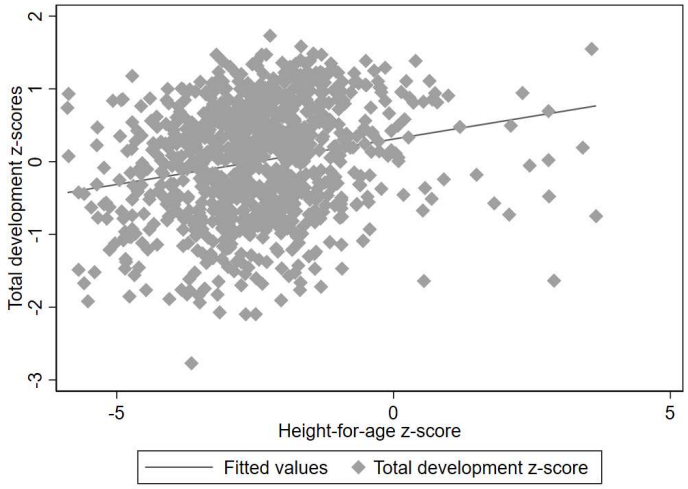
Online Supporting Material



Supplemental Figure S1 Timeline of data collections and the respective age of the children



Supplemental Figure S2 Average cumulative development test scores by maternal education category



Supplemental Figure S3 Average cumulative development test scores by of FREDI by child growth

Supplemental Table S1 Heterogeneous treatment effects using a linear regression model on child hemoglobin levels and skills dimensions

	Hb (child)	Motor skills	Language skills	Cognition skills	Socio-emo. skill
Panel A: By antenatal care uptake					
Hb (preg.)	0.162***	-0.006	0.034	-0.029	0.013
	(0.042)	(0.029)	(0.030)	(0.025)	(0.025)
Any ANC # Hb (preg.)	0.014	-0.006	-0.079*	-0.007	-0.059*
	(0.058)	(0.035)	(0.041)	(0.034)	(0.035)
R^2	0.174	0.248	0.221	0.304	0.332
N	938	972	996	990	994
Panel B: By child's sex					
Hb (preg.)	0.208***	0.009	-0.018	-0.027	-0.025
	(0.041)	(0.028)	(0.025)	(0.027)	(0.024)
Male # Hb (preg.)	-0.077	-0.037	0.024	-0.009	0.015
	(0.064)	(0.037)	(0.038)	(0.034)	(0.036)
R^2	0.176	0.247	0.218	0.303	0.321
N	939	972	996	990	994
Panel C: By caste category					
Hb (preg.)	0.164***	-0.016	-0.030	-0.035*	-0.019
	(0.033)	(0.023)	(0.026)	(0.019)	(0.022)
Scheduled caste or tribe # Hb (preg.)	0.033	0.032	0.088**	0.005	-0.008
	(0.079)	(0.039)	(0.044)	(0.041)	(0.039)
R^2	0.177	0.245	0.220	0.306	0.318
N	908	941	964	958	962
Panel D: By maternal literacy					
Hb (preg.)	0.166***	-0.011	-0.007	-0.021	-0.015
	(0.035)	(0.022)	(0.023)	(0.020)	(0.021)
Maternal literacy # Hb (preg.)	0.014	0.010	0.003	-0.047	-0.013
	(0.072)	(0.050)	(0.047)	(0.047)	(0.038)
R^2	0.174	0.246	0.218	0.304	0.321
N	939	972	996	990	994
Panel E: By gestational trimester					
Hb (preg.)	0.173***	-0.029	-0.029	-0.051	-0.026
	(0.054)	(0.038)	(0.040)	(0.037)	(0.034)
Second gestational trimester # Hb (preg.)	-0.031	0.039	0.061	0.029	0.041
	(0.077)	(0.045)	(0.047)	(0.044)	(0.046)
Third gestational trimester # Hb (preg.)	0.027	0.011	-0.010	0.020	-0.031
	(0.073)	(0.052)	(0.053)	(0.050)	(0.040)
R^2	0.175	0.246	0.220	0.303	0.323
N	939	972	996	990	994
Controls	Yes	Yes	Yes	Yes	Yes
Tester fixed effects	Yes	No	No	No	No
FREDI fixed effects	No	Yes	Yes	Yes	Yes

Notes: Outcome variables in column (2)-(5) are standardized test scores and the coefficients are shown in standard deviations. Standard errors clustered on village level are in parentheses. Included control variables: caste category, wealth quintile, food diversity in 2017, breast feeding, maternal age and literacy, first pregnancy (dummy), gestational trimester during Hb (preg.) measurement, ANC visit (dummy), child's sex and age, and block dummies. Additional control variable in column (2)-(5): test version. Tester fixed effects are anthropometric test conductor fixed effects. FREDI fixed effects are child development test conductor fixed effects. Hemoglobin is measured in g/dl. Inverse probability weight accounting for attrition applied. Conventional significance level: * p<0.1, ** p<0.05, *** p<0.01.

Supplemental Table S2 Linear regression model results of haemoglobin level of children on haemoglobin levels during pregnancy with additional covariates

	Hb (child)	Hb (child)	Hb (child)	Hb (child)	Hb (child)
Hb (preg.)	0.176***	0.163***	0.165***	0.154***	0.213***
	(0.029)	(0.030)	(0.029)	(0.030)	(0.033)
Hb (mother)	0.127***	0.133***	0.128***	0.134***	
	(0.034)	(0.034)	(0.036)	(0.035)	
Mother gave birth in past 2 years	0.013				
	(0.111)				
BMI (preg.)		0.009			
		(0.016)			
Postnatal depression			0.087		
			(0.118)		
Controls	Yes	Yes	Yes	Yes	No
Tester fixed effects	Yes	Yes	Yes	Yes	No
Panchayat dummies	No	No	No	Yes	No
Block dummies	Yes	Yes	Yes	No	No
N	896	933	807	939	939
R^2	0.173	0.174	0.161	0.236	0.054

Notes: Each column presents the estimation results of the main estimation with the displayed covariates or spatial fixed effects. Standard errors clustered on village level are in parentheses. Control variables: caste category, wealth quintile, food diversity in 2017, breast feeding, maternal age and literacy, first pregnancy (dummy), gestational trimester during Hb (preg.) measurement, ANC visit (dummy), child's sex and age.. Hemoglobin is measured in g/dl. Inverse probability weight accounting for attrition applied. Conventional significance level: * p<0.1, ** p<0.05, *** p<0.01.

Supplemental Table S3 Linear regression model results of cumulative test scores of children on haemoglobin levels during pregnancy with additional covariates

	Cum. development score	Cum. development score	Cum. development score	Cum. development score	Cum. development score
Hb (preg.)	-0.023	-0.015	-0.009	-0.015	-0.008
	(0.015)	(0.014)	(0.016)	(0.016)	(0.017)
Hb (mother)	0.042***	0.041**	0.036**	0.042**	
	(0.016)	(0.016)	(0.017)	(0.017)	
Mother gave birth in past 2 years	-0.017				
	(0.050)				
BMI (preg.)		0.004			
		(0.008)			
Postnatal depression			0.045		
			(0.051)		
Controls	Yes	Yes	Yes	Yes	No
FREDI fixed effects	Yes	Yes	Yes	Yes	No
Panchayat dummies	No	No	No	Yes	No
Block dummies	Yes	Yes	Yes	No	No
N	926	966	836	972	972
R^2	0.335	0.325	0.325	0.375	0.000

Notes: Each column presents the estimation results of the main estimation with the displayed covariates or spatial fixed effects. Standard errors clustered on village level are in parentheses. Control variables: caste category, wealth quintile, food diversity in 2017, breast feeding, maternal age and literacy, first pregnancy (dummy), gestational trimester during Hb (preg.) measurement, ANC visit (dummy), test version, child's sex and age. Hemoglobin is measured in g/dl. Inverse probability weight accounting for attrition applied. Conventional significance level: * p<0.1, ** p<0.05, *** p<0.01.

Supplemental Table S4 Linear regression model results of childhood Hb levels on Hb levels during pregnancy controlling for gestational month during Hb measurements and gestational trimester specific subgroup analyses

	Hb (child)	Hb (child)	Hb (child)	Hb (child)
Hb (preg.)	0.17***	0.13**	0.15***	0.20***
	(0.03)	(0.06)	(0.05)	(0.05)
Hb (mother)	0.13***	0.16**	0.13**	0.08
	(0.03)	(0.06)	(0.06)	(0.06)
Gestational month during preg. Hb measure	0.01			
	(0.02)			
Controls	Yes	Yes	Yes	Yes
Tester fixed effects	Yes	Yes	Yes	Yes
Sample	Full sample	First trimester subsample	Second trimester subsample	Third trimester subsample
N	972	245	467	260
R^2	0.324	0.376	0.416	0.364

Notes: In column (1) the dummies for the gestational trimester during pregnancy Hb measurement are replaced by the gestational month. Column (2)-(4) present the sub-group analyses for each gestational trimester. Standard errors clustered on village level are in parentheses. Control variables: caste category, wealth quintile, food diversity in 2017, breast feeding, maternal age and literacy, first pregnancy (dummy), ANC visit (dummy), child's sex and age and block dummies. Hemoglobin is measured in g/dl. Inverse probability weight accounting for attrition applied. Conventional significance level: * p<0.1, ** p<0.05, *** p<0.01.

Supplemental Table S5 Linear regression model results of cumulative test scores of children on Hb levels during pregnancy controlling for gestational month during Hb measurements and gestational trimester specific subgroup analyses

	Cum. development score	Cum. development score	Cum. development score	Cum. development score
Hb (preg.)	-0.01	0.00	0.01	-0.06*
	(0.01)	(0.03)	(0.02)	(0.03)
Hb (mother)	0.04**	-0.04	0.04*	0.07**
	(0.02)	(0.04)	(0.02)	(0.03)
Gestational month during preg. Hb measure	0.03**			
	(0.01)			
Controls	Yes	Yes	Yes	Yes
FREDI fixed effects	Yes	Yes	Yes	Yes
Sample	Full sample	First trimester subsample	Second trimester subsample	Third trimester subsample
N	972	245	467	260
R^2	0.324	0.376	0.416	0.364

Notes: In column (1) the dummies for the gestational trimester during pregnancy Hb measurement are replaced by the gestational month. Column (2)-(4) present the sub-group analyses for each gestational trimester. Standard errors clustered on village level are in parentheses. Control variables: caste category, wealth quintile, food diversity in 2017, breast feeding, maternal age and literacy, first pregnancy (dummy), ANC visit (dummy), test version, child's sex and age. Hemoglobin is measured in g/dl. Inverse probability weight accounting for attrition applied. Conventional significance level: * p<0.1, ** p<0.05, *** p<0.01.

Supplemental Table S6 Logit estimation results of child survival until wave 2 on Hb levels and anemia status during pregnancy

	Not alive	Not alive	Not alive	Not alive
Hb (preg.)	1.017	0.991		
	(0.047)	(0.052)		
Mild anemia (preg.)			0.995	1.012
			(0.183)	(0.205)
Moderate/severe anemia (preg.)			1.080	1.170
			(0.195)	(0.230)
Controls	No	Yes	No	Yes
N	1821	1622	1821	1622

Notes: Standard errors clustered in village level are in in parentheses. The binary outcome variable equals 1 if a child had not survived from pregnancy to wave 2. The coefficients are reported in odds ratios. Column (1) and (2) uses pregnancy Hb level of the mother as main explanatory variable. In Column (3) and (4), the two explanatory variables of interest are mild pregnancy anemia and moderate/severe pregnancy anemia. The reference category in column (3) and (4) is "no pregnancy anemia" Control variables include maternal literacy, ANC visit (dummy), first pregnancy (dummy), gestational trimester during Hb (preg.) measurement, caste category and block dummies. Hemoglobin is measured in g/dl. Conventional significance level: * p<0.1, ** p<0.05, *** p<0.01.