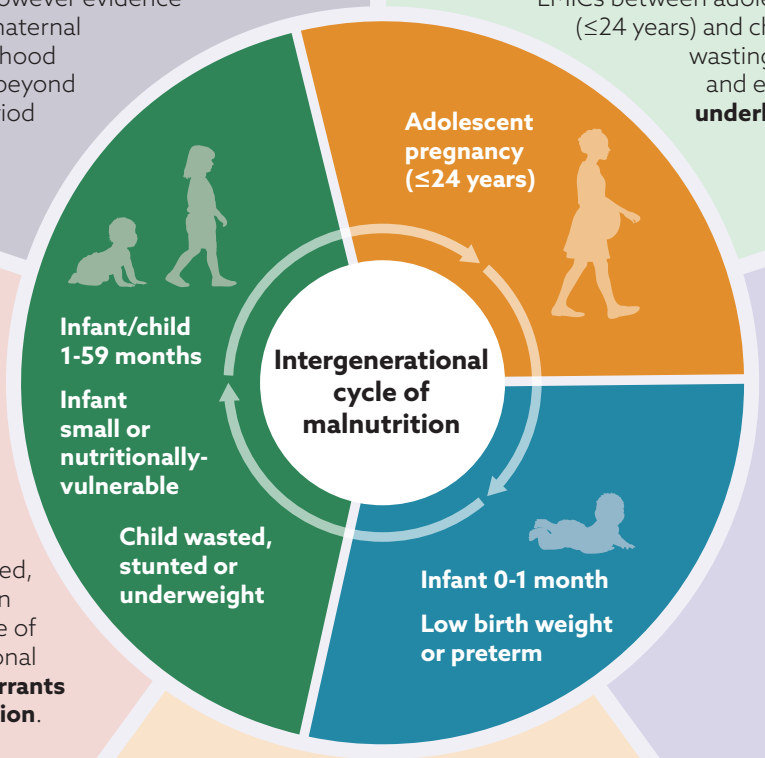
Adolescent pregnancy is associated with child undernutrition: Systematic review and meta-analysis

1

Adolescent pregnancy is associated with **poor fetal growth and development**, however evidence on how young maternal age affects childhood anthropometry beyond the neonatal period is limited.

2

This systematic review and meta-analysis examined associations in LMICs between adolescent pregnancy (≤24 years) and child (1-59 months) wasting or underweight, and explored **potential underlying risk factors**.



3

92 studies were included in the review, **57 included** in the meta-analysis.

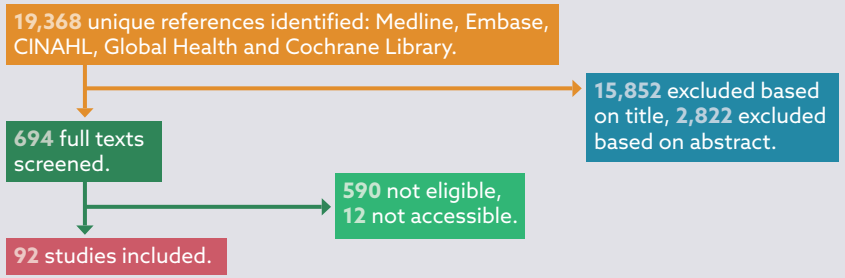
4

Children born to adolescent versus adult mothers were at a **higher risk of moderate and severe underweight**. Associated risk of wasting was not statistically significant.

5

Evidence on the potential role of biological/social factors was limited, but suggested an intermediary role of maternal nutritional status which **warrants further exploration**.

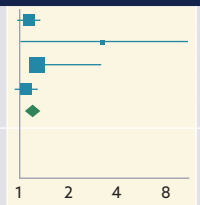
Flow diagram of search results



Association between adolescent pregnancy (10-19 years) and the pooled odds of severe childhood underweight (1-59 months) versus adult pregnancy. (OR: 1.21, 95% CI: 1.08-1.35 p < 0.01).

Study	Treatment Yes	Treatment No	Control Yes	Control No	Odds ratio with 95% CI	Weight (%)
Birhan and Belay	382	4,054	342	4,157	1.15 (0.98, 1.33)	27.35
Sanjay *et al*	4	11	38	341	3.26 (0.99, 10.75)	0.81
Subramanyam *et al*	1,517	5,788	12,022	58,983	1.29 (1.21, 1.37)	50.30
Rahman *et al*	133	1,450	1,291	15,115	1.07 (0.89, 1.29)	21.53
Overall					1.21 (1.08, 1.35)	

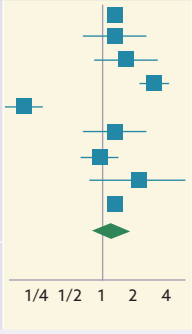
Heterogeneity: $T^2 = 0.01$, $I^2 = 44.69\%$, $H^2 = 1.81$
Test of 0, = 0,: Q(3) = 7.16, p = 0.07
Text of 0 = 0: z = 3.41, p = 0.00
Random-effects REML model



Association between adolescent pregnancy (10-24 years) and the pooled odds of severe childhood wasting (1-59 months) versus adult pregnancy. (OR: 1.16, 95% CI: 0.68-1.96 p = 0.59).

Study	Treatment Yes	Treatment No	Control Yes	Control No	Odds ratio with 95% CI	Weight (%)
Fagmaigbe *et al*	18,415	141,718	33,593	323,371	1.25 (1.23, 1.27)	12.40
Gebremaryan *et al*	22	37	45	97	1.28 (0.68, 2.42)	10.50
Pravana *et al*	26	17	120	129	1.64 (0.85, 3.18)	10.38
Rahman *et al*	596	4,610	81	1,844	2.94 (2.32, 3.74)	12.09
Rahman *et al*	38	1,545	1,906	14,500	0.19 (0.14, 0.26)	11.84
Gebremaryan *et al*	22	37	45	97	1.28 (0.68, 2.42)	10.50
Dadi *et al*	39	242	86	499	0.94 (0.62, 1.41)	11.54
Ghimire *et al*	5	44	18	331	2.09 (0.74, 5.91)	8.36
Fagmaigbe *et al*	18,415	141,718	33,593	323,371	1.25 (1.23, 1.27)	12.40
Overall					1.16 (0.68, 1.96)	

Heterogeneity: $T^2 = 0.58$, $I^2 = 99.87\%$, $H^2 = 790.43$
Test of 0, = 0,: Q(8) = 184.06, p = 0.00
Text of 0 = 0: z = 0.54, p = 0.59
Random-effects REML model



So what? Interventions to both delay pregnancy and improve adolescent nutritional status could help reduce the risk of undernutrition in children and contribute to **breaking the intergenerational cycle of malnutrition.**

Citation: Welch et al., Maternal and Child Nutrition
https://doi.org/10.1111/mcn.13569