Maternal Weight Change in Pregnancy is Associated with Women's Long-term Mortality

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What we know:

High weight gain in pregnancy is associated with greater postpartum weight retention.

What we don't know:

Whether weight gain in pregnancy impacts women's long-term health and mortality.

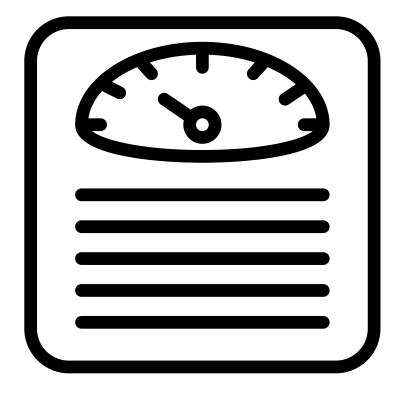
METHODS

Prospective cohort of pregnant women in 1959-1965 linked to death records for vital status through 2016.



Mean age 24.5 (SD 6.2)

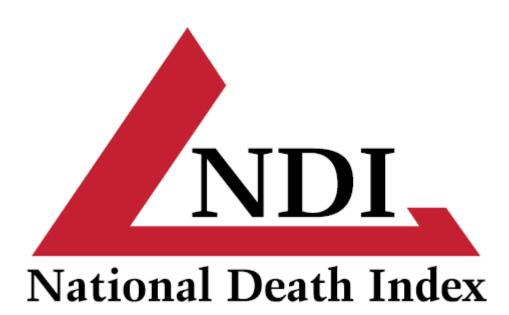
> 45% Black 46% White



Total Gestational Weight Change

Median 9.5 kg (IQR 6.4-12.2) 2.5% lost weight during pregnancy

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Records linked to the NDI and social security death master file

52 years follow up (IQR 45-54)

38.9% of women died

What we found:

Women's pregnancy weight change had a U-shaped relationship with long-term mortality. Compared to women with average pregnancy weight gain, women with weight loss or lowest weight gain, and women with highest weight gain, had a 7% and 9% increased mortality risk, respectively.

RESULTS

		-		-	
	Total Pregnancy Weight Change				
	Adjusted Hazard Ratio (95% CI)				
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Q
All causes	1.07 (1.01, 1.12)	1.03 (0.98, 1.09)	1.00 (ref)	1.01 (0.96, 1.07)	1
Cancer	1.20 (0.99, 1.46)	1.15 (0.95, 1.40)	1.00 (ref)	0.99 (0.81, 1.23)	1
Cardiovascular	1.05 (0.96, 1.15)	1.00 (0.90, 1.11)	1.00 (ref)	1.04 (0.94, 1.15)	1
Respiratory Disease	1.14 (0.96, 1.37)	1.00 (0.84, 1.19)	1.00 (ref)	0.79 (0.65, 0.95)	0
Diabetes	0.92 (0.72, 1.17)	0.88 (0.69, 1.11)	1.00 (ref)	1.10 (0.85, 1.41)	1
Dementia	1.15 (0.85, 1.56)	1.02 (0.76, 1.38)	1.00 (ref)	1.08 (0.83, 1.42)	0
Infection	1.14 (0.84, 1.54)	1.10 (0.84, 1.45)	1.00 (ref)	1.16 (0.85, 1.58)	1
Kidney Disease	1.18 (0.84, 1.64)	1.02 (0.71, 1.47)	1.00 (ref)	1.09 (0.74, 1.60)	0
Liver Disease	1.21 (0.76, 1.92)	1.37 (0.90, 2.07)	1.00 (ref)	0.90 (0.56, 1.45)	1
Other Causes	0.95 (0.83, 1.09)	0.97 (0.86, 1.10)	1.00 (ref)	0.93 (0.82, 1.07)	0

Analyses adjusted for the following index pregnancy variables: age, smoking, race, parity, marital status, income, education, prior medical conditions, site, study year, pre-pregnancy body mass index, gestational week at delivery.

What the results mean: Pregnancy weight gain has implications beyond the pregnancy window. Pregnancy weight gain should be a target for advancing women's health over the life span.





Total pregnancy weight change in quintiles and the association with all-cause and cause specific mortality.







CPP Linkage Collaborative Perinatal Project

