OLDER MATERNAL AGE AND CARDIOVASCULAR AND METABOLIC DISEASE OUTCOMES: A RETROSPECTIVE COHORT STUDY USING DATA FROM POPULATION -BASED ELECTRONIC MEDICAL RECORDS

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BACKGROUND AND GOAL OF THE STUDY

In this study we aimed to evaluate whether women with advanced age at their first birth have more intermediate cardiovascular and metabolic health (cardiometabolic) outcomes that occur by age 45.

MATERIALS AND METHODS

- This retrospective, longitudinal, population-based cohort study included women aged 34-39 at baseline (2004-2006) who were followed through until age 45.
- All data was extracted from a large comprehensive electronic medical record database from Clalit Health Services.
- Women at baseline were identified as parous or nulliparous and then followed up until 2016 and further divided into three groups: women who gave birth to their first child between the age ages of 34-39, those who gave birth to their first child between the ages of 40-44, and a group of persistent nulliparous women.
- The rate of both adverse pregnancy events and cardiometabolic diseases at age 45 were compared across these three groups and to women in the general population.
- Main outcomes measures included type 2 diabetes, obesity, hypertension, cardiovascular disease, and Framingham risk score.

TABLE 1: INTERMEDIATE CARDIOMETABOLIC OUTCOMES AT AGE 45 BY THE GENERAL POPULATION, YOUNGER PARTURIENTS¹, OLDER PARTURIENTS², AND PERSISTENT NULLIPAROUS WOMEN

Outcomes (at age 45)	GENERAL POPULATION*	YOUNGER PARTURIENTS	p-value	OLDER PARTURIENTS	p-value	PERSISTENT NULLIPAROUS
N	106,050	952		673		8,354
Diabetes	2.3%	1.3%	0.46	1.6%	0.24	2.3%
Hypertension	5.7%	1.8%	0.16	3.0%	0.67	3.4%
Obesity	21.0%	15.8%	0.82	15.2%	0.01	19.7%
Cardiovascular disease	1.1%	0.2%	0.21	0.6%	0.93	0.6%
Framingham 10 year CVD risk	3.2%	2.8%	0.99	2.8%	<0.001	3.1%

1. Younger parturients were women aged 34/35-39 at the time of their first childbirth delivery.

2. Older parturients were women aged 40-44 at the time of their first childbirth delivery.

*All comparisons between the general population and three other groups have statically significant differences (p-values <.01) except for the non-significant difference in percentage with diabetes between the general population and the persistent nulliparous group

RESULTS

- Over the follow-up, 952 women gave birth for the first time between the ages of 35-39, 673 gave birth between the ages of 40-44, and 8,354 women remained persistently nulliparous.
- Older women were found to have more gestational diabetes (6.9% vs 4.3% ,p=0.036) and preeclampsia (4.0% vs 1.9%, p=0.015) we found no difference between the two parturients groups in the prevalence of cardiovascular and metabolic disease outcomes at age 45.
- Older parturients also did not have more adverse cardiovascular outcomes when compared to the general population or persistent nulliparas.

CONCLUSIONS

In this study cohort, women who had their first birth at an older age did not have an increased risk for intermediate cardiovascular complications.