Diet may play a role in development of pregnancy complications among Hispanic/Latina women

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Diet may play a role in the development of dangerous high blood pressure in late pregnancy among some Hispanic/Latina women,

according to preliminary research to be presented at the American Heart Association's Epidemiology, Prevention, Lifestyle & Cardiometabolic Health Conference 2022. The meeting will be held in person in Chicago and virtually Tuesday, March 1—Friday, March 4, 2022, and offers the latest in population-based science related to the promotion of cardiovascular health and the prevention of heart disease and stroke.

"Our study findings suggest that a diet with relatively higher intakes of non-starchy vegetables, oils and fruit may lower the likelihood of developing a high blood pressure disorder during pregnancy, among our study group of predominantly low-income Hispanic/Latina women. Conversely a diet with relatively higher intakes of solid fat, refined grains and cheese may increase the likelihood of a diagnosis of a serious condition, called preeclampsia," said lead author of the study, Luis E. Maldonado, Ph.D., M.P.H., a postdoctoral scholar and research associate in the department of population and public health sciences at the Keck School of Medicine at the University of Southern California in Los Angeles.

Hispanic/Latina women are among several racial and ethnic groups at higher risk of developing blood pressure disorders during pregnancy. Hypertensive disorders of pregnancy (HDPs) include gestational hypertension (developing high blood pressure for the first time after the 20th week of pregnancy) and preeclampsia, a serious and sometimes fatal late-pregnancy complication that includes high blood pressure with signs of damage to the liver and kidneys.

In this study, researchers sought possible links between what women typically ate in the third trimester of pregnancy (the last three months of pregnancy, months 7, 8 and 9) and the diagnosis of hypertensive disorders of pregnancy. They analyzed data on 464 pregnant women (average age of 29 years) who were already participating in research through the Maternal and Developmental Risks from Environmental and

Social Stressors (MADRES) Center, an ongoing, prospective pregnancy cohort of predominantly low-income, Hispanic/Latina women living in Los Angeles. The study included women who had normal blood pressure prior to pregnancy and women who had been diagnosed with hypertension prior to pregnancy who may develop worsening high blood pressure conditions during pregnancy.

Using the Automated Self-Administered 24-Hour Dietary Assessment Tool (ASA24), a self-administered, web-based tool, freely available for use in large-scale nutrition research, each woman verbally completed one or more dietary recalls during their third trimester of pregnancy that asked about foods and beverages consumed in the previous 24-hour period. Based on participants' responses regarding their food intake, scores were calculated for each woman for two different dietary patterns:

- Participants scoring in the upper quartile of a diet with relatively higher intakes of solid fats, refined grains and cheese were classified as following the SRC dietary pattern. To a lesser extent, the SRC dietary pattern was also associated with more added sugar, meats and processed meats.
- Participants scoring in the upper quartile of a diet with relatively higher intakes of non-starchy vegetables, oils (fats naturally present in nuts, seeds, seafood; non-hydrogenated vegetable oils, etc.) and fruit were classified as following a VOF dietary pattern. The VOF dietary pattern was also associated with greater consumption of nuts and seeds, yogurt, whole grains, eggs, soy protein and seafood.

The diagnosis of hypertension was determined from the women's medical charts, noting either a physician's diagnosis or a blood pressure reading (after 20 weeks of pregnancy) of 140 mm Hg or higher systolic (the top number) or 90 mm Hg or higher diastolic (the bottom number)

on at least two consecutive prenatal visits. The results were adjusted for age, education, Hispanic/Latina ethnicity, number of pregnancies, pre-pregnancy diabetes and daily calorie consumption.

The analysis found:

- 21.6% of the women developed at least one hypertensive disorder of pregnancy, with 6.7% developing gestational hypertension and 12.1% developing preeclampsia.
- Women who scored in the upper 25% on the dietary pattern consuming the most solid fats, refined grains and cheese (the SRC dietary pattern) had 3.50 greater likelihood of having had any hypertensive disorder of pregnancy and 3.59 greater likelihood of having had a preeclampsia diagnosis, compared with women who reported eating the least of these foods (in the lowest 25% on the SRC dietary pattern).
- Women who reported consuming the most non-starchy vegetables, oils and fruits (those who scored in the upper 25% on the VOF dietary pattern) had a lower likelihood of having developed preeclampsia (0.33) compared with women eating the least of the foods in the VOF dietary pattern.

The study has several limitations. The dietary data was self-reported and relied on participant memory. Maldonado noted these results may not be generalizable to all populations since study participants were predominantly low-income and of Hispanic/Latina origin. Therefore, foods more culturally relevant and commonly consumed by the study population may be different in other populations.

"Additionally, the women's diets were assessed only at one point in time, and mostly in the third trimester of pregnancy, which may have been either before or after a hypertensive disorder of pregnancy was diagnosed," Maldonado said. "The timing is important because

individuals may change their diet and other health behaviors as a result of any other serious health-related diagnosis such as gestational diabetes or high blood pressure. Therefore, future studies that capture diet earlier in pregnancy and before a hypertensive disorder of pregnancy diagnosis is made are needed to verify our findings."

More information: Conference: professional.heart.org/en/meetings/epi-lifestyle

Provided by American Heart Association