Nutrition During Pregnancy and Lactation: Exploring New Evidence – A Workshop

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Disclosure: Views presented in this presentation are my own and are not representative of my role in any other capacity.
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Overview of the Statement of Task:

• We will explore the state of the science on nutrients, dietary patterns, nutritional supplements, and other nutrition-based topics relevant to pregnancy and lactation.

• The workshop topics will include discussion of equity in access of nutritional care for women of childbearing age.
Our hope is:

- to help inform stakeholders about whether there is a need for a new study to reexamine the evidence on the role of nutrition in pregnancy and lactation relative to the needs of the U.S. population today.
Nutrition During Pregnancy 1990

Report-major conclusions:

• **Evaluation** of a pregnant woman’s dietary pattern **by food history or food frequency questionnaire**, augmented by questions about **special problems or conditions** that might affect dietary adequacy may provide the best information for assessing the need for nutrient supplementation.

• **Iron is the only** known nutrient for which requirements cannot be met reasonably by diet alone.

• Pregnant women can meet the physiologic requirements for folate **by following dietary guidelines**.

• **Folate deficiency** is very rare among pregnant women in the United States. There is some evidence that periconceptional use of multivitamins or folate may provide some protection against the occurrence of neural tube defects.
Nutrition During Pregnancy 1990

Report-major conclusions:

• Because **protein is abundant** in usual diets in the US and because of evidence suggesting possible harm from routine ingestion of specially formulated high-protein supplements, the use of such supplements, **protein powders, or high-protein beverages should be discouraged.**

• There is only **inconsistent and fragmentary** evidence that the consumption of **coffee or caffeine during pregnancy** exerts adverse effects on the fetus.

• The **adequacy of calcium and vitamin D** intake among pregnant women under age 25 deserves special attention.

• Because of accumulating data that **excessive vitamin A consumption poses a teratogenic risk**, supplementation with preformed vitamin A should be avoided during the first trimester.
Nutrition During Lactation 1991

Report-major conclusions:

- Women living under a wide variety of circumstances in the United States and elsewhere are capable of fully nourishing their infants by breastfeeding them.
- Breastfeeding is recommended for all infants in the United States under ordinary circumstances.
- Data are lacking for use in developing strategies to identify lactating women who are at risk of depleting their own nutrient stores.
Women then vs now: What has changed?

- Data sources available to describe trends
- Characteristics of women who become pregnant
- Tools available to providers, nutritionists, and the public to seek out nutrition information and conduct assessments
- Consumers demand for nutrition knowledge, food supply, and how consumers are both making food decisions and where they obtain food has changed drastically
Figure 3. Birth rates, by age of mother: United States, 1990–2018

NOTE: Rates are plotted on a logarithmic scale.
Figure 1

Percentage of Births Which Were to Mothers Who Smoked During Pregnancy, by Age: 1989-2013

Note: The number of states using the 1989 and 2003 revisions of the standard birth certificate has varied over time.

Trends in the distribution of BMI* from 1993 to 2003 among prepregnant U.S. women in the total population and by race

FIGURE. Prevalences and relative changes in prepregnancy BMI categories* among women with a live birth — 36 states, District of Columbia, and New York City, ‡ 2011–2015

Abbreviation: BMI = body mass index (kg/m²).
* Prepregnancy BMI was categorized as underweight (BMI <18.5), normal weight (BMI 18.5–24.9), overweight (BMI 25.0–29.9), obesity class I (BMI 30.0–34.9), obesity class II (BMI 35.0–39.9), and obesity class III (BMI ≥40.0).
‡ Data are from 38 jurisdictions that utilized the revised birth certificate by January 1, 2011 and, thus, had prepregnancy BMI data during 2011–2015. Jurisdictions included are California, Colorado, Delaware, District of Columbia, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Michigan, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Mexico, New York, New York City, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Washington, Wisconsin, and Wyoming (natality data from New York City are reported separately and are not included in New York estimates).
Prematurity (<37 weeks) and Low Birthweight (<2500 grams), U.S., 1981-2018

- **Prematurity (LMP)**
- **Prematurity (OE)**
- **Low Birthweight**

LMP – based on last menstrual period
OE – based on obstetric estimate
Gestational Age, U.S. All Births, 1990, 2018

Completed Weeks of Pregnancy

- <34: 3% 3%
- 34-36: 7% 8%
- 37-38: 20% 26%
- 39: 22% 31%
- 40: 23% 19%
- 41: 14% 8%
- 42+: 11% 5%

Birthbythenumbers.org

* Includes only mothers with a singleton delivery.

† Includes only non-Hispanic white, non-Hispanic black, and Hispanic mothers (who might be of any race).

§ The total number of women who gained >40 pounds was 456,678 in 1990, 588,253 in 2000, and 656,363 in 2005.
Top Diets

- 10% Intermittent Fasting
- 7% Paleo
- 5% Low-carb
- 5% Whole30
- 4% High-Protein
- 3% Ketogenic/High-Fat
Food Values/Labels: Factor in Consumers’ Decision-Making

- **Organic**
  - Restaurants: 14% (2017) to 20% (2018)

- **Natural**
  - Restaurants: 23% (2017) to 26% (2018)

- **Sustainable**
  - Food Production: 50% (2017) to 59% (2018)
  - Less Pesticides: 27% (2017) to 33% (2018)
  - Affordable Food Supply: 10% (2017) to 16% (2018)

@foodinsight / @FACTSfollowers Foodinsight.org
Supermarket Remains Top Source of Food

Men more likely to use drug stores, convenience stores and online or meal kit delivery services

How Often Shop For/ Purchase Food or Beverages

- At a supermarket
- At a super-store (ex: Walmart, Target)
- At a natural foods store (ex: Whole Foods)
- At a warehouse/discount club (ex: Costco, Sam’s Club...)
- At a convenience store (ex: 7-Eleven)
- At a farmers’ market
- From an online grocery delivery/pick-up service
- At a drug store (ex: CVS, Walgreens)
- From a meal kit delivery service

Q16: How often do you shop for/purchase food and beverages...(n=1,009)
As a reminder, our hope is:

• to help inform stakeholders about whether there is a need for a new study to reexamine the evidence on the role of nutrition in pregnancy and lactation relative to the needs of the U.S. population today.
Keeping in mind that we now have a new category for the DRIs

**Guiding Principles Report**

- Provides guidance for establishing DRIs based on chronic disease

- In general, DRIs based on chronic disease are:
  - Established when there is *at least moderate strength of evidence* for both causal and intake-response relationships
  - Ideally based on the chronic disease of interest, although *qualified surrogate markers* can be used as supporting evidence
Procedures for asking questions

• Audience questions will be taken at the end of each session, unless otherwise noted

• Questions will begin with those in the event room

• Questions will be taken from webinar participants and asked, as time permits
Next Steps:

• Workshop recordings will be posted to the meeting page within the next couple of weeks

• Proceedings of a Workshop In Brief anticipated late Spring 2020

• Proceedings of a Workshop anticipated Summer 2020