Update on Dietary Guidelines Advisory 2020 Scientific Report and Implications Dietary Guidelines for Americans for Seafood Recommendations

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17 Sept 2020
Outline

- DGAC for 2020 DGA.
- History, evidence?
- Traditional
  - Pregnancy and kids (2+ years), as usual
  - New in 2020: Kids birth to 2 years
- Seafood recommendations
Current US Seafood Consumption Guidelines:
Eat Seafood Twice A Week

USDA/HHS: Dietary Guidelines for Americans
How well were Americans doing on seafood consumption?

The 2015 Dietary Guidelines for Americans considered NHANES component “What we eat in America” WWEIA

- Men over consume meat/poultry and eggs
- All Americans under consume seafood

Shift from meat to seafood is recommended.

No recommendation was made to eliminate

- meat
- dairy
40 years of Dietary Guidelines

1980

Food Guide Pyramid

1990

MyPyramid 2005

1995

MyPlate 2011

2015-2020

JTB Observations
- No Dietary Guidelines were based on the previous one
- No established “Procedures” until this year when an effort was made to “reevaluate” DGAC procedures.
DGA 2015-2020 Seafood Advice

• For the general population, consumption of about 8 ounces per week of a variety of seafood, which provide an average consumption of 250 mg per day of EPA and DHA, is associated with reduced cardiac deaths among individuals with and without preexisting CVD.

• Strong evidence from mostly prospective cohort studies but also randomized controlled trials has shown that eating patterns that include seafood are associated with reduced risk of CVD, and moderate evidence indicates that these eating patterns are associated with reduced risk of obesity.
DGA 2015-2020 Seafood Advice (cont.)

• Women who are pregnant or breastfeeding should consume at least 8 and up to 12 ounces of a variety of seafood per week, from choices that are lower in methyl mercury.

• Consumption by women who are pregnant or breastfeeding of at least 8 ounces per week from seafood choices that are sources of DHA is associated with improved infant health outcomes.
This is not new from 2015

- **Data Analysis** of national data sets (e.g. NHANES) for health of Americans and dietary intakes

- **Food Pattern Modeling** for nutrient intake

- **NESR Systematic Reviews** for diet and health relationships
  - NESR = Nutrition Evidence Systematic Review (USDA). Formerly known as NEL (Nutrition Evidence Library)

https://www.dietaryguidelines.gov/work-under-way/review-science/advisory-committee-approaches-to-examine-the-evidence
GOED Publishes Paper on Omega-3 Intake and Cardiovascular Outcomes

• Comprehensive meta-analysis on totality of evidence (40 clinical trials, 135,000+ subjects) published this week in Mayo Clinic Proceedings

• Statistically significant findings:
  • 35% reduced risk of fatal myocardial infarction (MI)
  • 13% reduced risk of MI
  • 10% reduced risk of coronary heart disease (CHD) events
  • 9% reduced risk of CHD mortality
GOED Publishes Paper on Omega-3 Intake and Cardiovascular Outcomes

• Paper also investigated reasons for variability of RCT results in recent years:
  • Dosage and composition
  • Year of study publication
  • Baseline risk
  • Whether treatment included EPA only or EPA+DHA

• Only dosage mattered – the higher, the better*. An additional 1g/day results in an additional:
  • 5.8% reduced risk of cardiovascular disease (CVD) events
  • 9.0% reduced risk of MI

(*Study looked at dosages up to 5.5 grams)
**NESR Systematic Reviews for the 2020 Advisory Committee**

The NESR team will be using its rigorous, protocol-driven methodology to support the 2020 Advisory Committee to conduct systematic reviews. NESR’s general methodology for answering a systematic review question involves:

- searching for and selecting articles,
- extracting data and assessing the risk of bias of results from each included article,
- synthesizing the evidence,
- developing a conclusion statement,
- grading the evidence underlying the conclusion statement, and
- recommending future research.

## DGAC 2020

Designates “In progress”

### Seafood

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<tr>
<th>Status</th>
<th>Question</th>
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<td>What is the relationship between seafood consumption during pregnancy and lactation and neurocognitive development of the infant?</td>
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<td>What is the relationship between seafood consumption during childhood and adolescence (up to 18 years of age) and neurocognitive development?</td>
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<td></td>
<td>What is the relationship between seafood consumption during childhood and adolescence (up to 18 years of age) and risk of cardiovascular disease?</td>
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[Seafood Nutrition Partnership](http://www.seafoodnutrition.org)
Ad hoc group answered the DGAC questions

- SNP-coordinated group performed systematic reviews following DGAC process as closely as possible (companion paper on elements of context)
- Results published in peer reviewed journal, October 2019.
- Presented to DGAC at oral January 2020.
Glossary

• DGAC ≠ DGA

• DGAC = Dietary Guidelines Advisory Committee
  • n=20 nutrition scientists. All from Universities/Medical Schools/Schools of Public Health (no industry, no government (but some with government experience)
  • Charge: Evaluate recent evidence available to update existing guidelines
  • Produce a report for input to DGA

• DGA = Dietary Guidelines for Americans
  • The final US government policy including input from DGAC, public comments including industry, political input.

https://www.tedeytan.com/2019/07/12/34124
DGAC Report Released July 2020

- 835 pages, plus 1,000s of pages of systematic reviews online.
- Addressed about 2/3 of questions drafted prior to naming of committee members.
- Let’s look at the 13 page Executive Summary with respect to Seafood
Pregnancy

- The Committee’s reviews also suggested that seafood intake before pregnancy as part of a healthy dietary pattern, particularly intake of fish high in omega-3 fatty acids, may be related to reduced risk of gestational diabetes and hypertensive disorders, and that consumption during pregnancy may be related to reduced risk of hypertensive disorders and preterm birth and better cognitive development and language and communication development in children. Therefore, the Committee concurred with existing recommendations that women who are pregnant should consume at least 8 and up to 12 ounces of a variety of seafood per week from choices that are lower in methlymercury [sic] and higher in omega-3 fatty acids.
...the Committee’s review suggested that seafood choices are important components of a healthy dietary pattern for women. Therefore, the Committee concurred with existing recommendations that women who are lactating should continue to consume seafood at the same amounts recommended during pregnancy.

...The Committee therefore supports recommendations for women who are lactating to consume food sources of long-chain polyunsaturated fatty acids, such as fish.
Dietary Patterns

Common characteristics of dietary patterns associated with positive health outcomes include higher intake of vegetables, fruits, legumes, whole grains, low- or non-fat dairy, lean meat and poultry, seafood, nuts, and unsaturated vegetable oils…
Dietary Fats and Seafood

The Committee also conducted a review of relationships between seafood consumption during childhood and adolescence and risk of CVD and neurocognitive outcomes during the lifespan. Available evidence was insufficient to make a conclusion about seafood intakes during these life stages and risk of later CVD or neurocognitive outcomes. However, no adverse associations were reported.
Post-DGAC Report Comments

• Brief period for written comments and oral testimony (3 minutes) to the HHS/USDA that is developing the DGA
• Comments made on retaining the 12 oz per week target.
• Now it is in the hands of the HHS/USDA

https://www.youtube.com/watch?v=L0o5nRY1F0U
Conclusions

- Seafood featured in 2020 DGAC report issued July 2020
- Full systematic review revealed net evidence for many positive aspects of health
  - Neurocognitive development for children for Mom’s consumption in pregnancy and lactation and for children’s consumption
  - Health of pregnant mom
  - Major component of healthy dietary patterns
  - No evidence of harm at the highest levels of seafood consumption.