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Food industry

Comment

RE: Consideration of best practices in the review of meat intake in observational evidence can help ensure robust and reliable dietary recommendations

The Beef Checkoff appreciates the opportunity to provide important considerations when reviewing meat intake in observational evidence, to ensure dietary recommendations are high-quality and science-based - particularly in light of conclusions stated at the DGAC Meeting 4 on dietary patterns associated with all-cause mortality. The Beef Checkoff is a producer-funded marketing and research program, which includes a significant commitment to supporting nutrition research to better understand beef's role in healthy diets.

Challenges associated with the interpretation of evidence related to meat intake in observational studies have been recognized; in fact, the Scientific Report of the 2015 Dietary Guidelines Advisory Committee noted "As lean meats were not consistently defined or handled similarly between studies, they were not identified as a common characteristic across the reviews." The attached overview highlights the implications of these challenges as dietary evidence is evaluated, such as: persistent inconsistencies in red meat terminology; methodologies that do not clearly distinguish red meat groups and types in studies; interpretation of broad "meat" evidence as specific to "red meat"; and lack of recognition that "meat" is not a standardized nor exclusive categorization for analysis of U.S. food surveys.

Long term, specific and standardized food categories and descriptions for meat are needed in observational studies, in addition to the use of more randomized controlled trial studies where meat types and intakes are clearly defined to inform recommendations for meat. In the meantime, dietary guidance, including the 2020 DGAC conclusions, can recognize evidence limitations and provide appropriate evidence grades based on the challenges of interpreting observational studies including meat and their impact on health.

Thank you for the opportunity to share the attached considerations, to help ensure the 2020 Dietary Guidelines for Americans are developed by systematically reviewing the totality of the evidence and using best practice methods that are objective and transparent.

Attachments (1)

BeefCheckoffAllCauseMortalityandMeatTerminologyEvidence Overview

View Attachment: PDF

National Cattlemen's Beef Association
a contractor to the Beef Checkoff

March 5, 2020

Barbara Schneeman, PhD
Chair, 2020-2025 Dietary Guidelines Advisory Committee

Ron Kleinman, MD
Vice-Chair, 2020-2025 Dietary Guidelines Advisory Committee

CC: 2020-2025 Dietary Guidelines Advisory Committee Members
U.S. Department of Agriculture
U.S. Department of Health and Human Services
Brandon Lipps, Deputy Undersecretary for Food and Nutrition Consumer Services

RE: Consideration of best practices in the review of meat intake in observational evidence can help ensure robust and reliable dietary recommendations

Dear Members of the Dietary Guidelines Advisory Committee (DGAC):

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Challenges associated with the interpretation of evidence related to meat intake in observational studies have been recognized; in fact, the 2015 DGAC noted "As lean meats were not consistently defined or handled similarly between studies, they were not identified as a common characteristic across the reviews."[1] The attached overview highlights the implications of these challenges as dietary evidence is evaluated, such as: persistent inconsistencies in red meat terminology; methodologies that do not clearly distinguish red meat groups and types in studies; interpretation of broad "meat" evidence as specific to "red meat"; and lack of recognition that "meat" is not a standardized nor exclusive categorization for analysis of U.S. food surveys.

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[1]Dietary Guidelines Advisory Committee. 2015. Scientific Report of the 2015 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Health and Human Services and the Secretary of Agriculture. U.S. Department of Agriculture, Agricultural Research Service, Washington, DC.

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Consideration of best practices in the review of meat intake in observational evidence can help ensure robust and reliable dietary recommendations
Evidence Overview and Supporting Citations

During Meeting 4 of the 2020 Dietary Guidelines Advisory Committee (DGAC) the following draft conclusion statement was offered regarding the role of dietary patterns in decreased risk of all-cause mortality: "Strong evidence suggests that certain dietary patterns in adults and older adults are associated with decreased risk of all-cause mortality. These dietary patterns were characterized by intake from vegetables, legumes, fruit, nuts, whole grains, fish, ***lean meat or poultry***, and unsaturated fats relative to saturated fat." "Of the dietary patterns that included animal products, protective associations were generally observed with relatively lower consumption of ***red and processed meat*** or ***meat and meat products*** (1)." [emphasis added]

Challenges associated with the interpretation of evidence related to meat intake in observational studies have been recognized:

- The 2015 DGAC noted "As lean meats were not consistently defined or handled similarly between studies, they were not identified as a common characteristic across the reviews (2)."
- Following his service as a 2015 DGAC member, Dr. Wayne Campbell concluded in a recent systematic review, "Inconsistent muscle food categories and descriptions (such as meat, poultry, or seafood) are a recognized challenge for human chronic disease and meat science researchers." "…inconsistent muscle food categories and descriptions hinder accurate measures of muscle food intakes, interpretations of associations between muscle food intakes and disease, as well as translation of research findings into public programs and policy (3)."
- And, earlier this month, a publication co-authored by 2020 DGAC member Dr. Linda Van Horn (4) exemplifies how broad food categories represented in food frequency questionnaires fail to provide meaningful detail regarding the association between individual foods and chronic disease (3). For example, the authors note that fried chicken was included in their poultry category, yet this same food category was found to have no significant association with risk of all-cause mortality, leading the authors to conclude – "…higher intake of processed meat or unprocessed red meat, ***but not poultry*** or fish, was significantly associated with a small increased risk of all-cause mortality (4)." [emphasis added] In other words, consumption of poultry, ***including fried chicken***, does not contribute to risk of all-cause mortality. While the authors recognize this food category limitation on the 8th page of their 10 page publication, this limitation is not mentioned in the abstract (4, 5).

We have previously provided evidence to the 2020 DGAC regarding best practices for formulation of high-quality, evidence-based dietary guidance for meat, based on dietary pattern evidence (6). Specifically:

1. Methodology that Defines Individual Meat Types and Avoids Overlap Between Meat Groups – Distinguishes fresh from processed meat; recognizes different processing methods for processed meat; allocates a particular meat type to only one meat category; identifies meat derived from a specific species, i.e. beef, pork, lamb, goat for precision; and distinguishes lean vs higher fat cuts (3, 7, 8).

2. Definition of Meat Components in Dietary Patterns - Interpretation of broad "meat" evidence as specific to "red meat" is problematic for U.S. dietary guidance related to meat intake (3, 8).
3. Description of Both Food Groups and Related Nutrient Distributions - Consistent with best practice recommendations in nutrition study reporting. Disparate foods can vary widely in their macronutrient, micronutrient, and processing ingredient contribution to the diet (3, 8).
4. Recognition that "Meat" is not a Standardized nor Exclusive Categorization for Analysis of U.S. Food Surveys - Review of study methodology to verify author definitions of common food groupings could reduce misinterpretation and reduce the risk of erroneous meat-related advice (3, 8).
5. Utilization of Randomized Controlled (RCT) Study Designs Where Meat Types and Intakes are More Clearly Defined to Inform Recommendations for Meat – While all-cause mortality is not a typical outcome of an RCT (1), RCTs are at lower risk of bias, and can confirm cause-specific disease observations using controlled diets and intermediate markers of disease (9).

At the time of DGAC Meeting 4, the public protocol had to yet list the studies relied upon by the Dietary Patterns Subcommittee (DP SC) to reach their draft conclusion for dietary patterns and all-cause mortality. **However, dietary pattern evidence available to the 2015 DGAC was often limited and inconsistent regarding meat intake**. Specifically, the 2015 DGAC noted **"As lean meats were not consistently defined or handled similarly between studies, they were not identified as a common characteristic across the reviews (2).** However, as demonstrated in the food pattern modeling of the Healthy U.S.-style and Healthy Mediterranean-style patterns, lean meats are part of a healthy dietary pattern (2)."

During Meeting 4 (at 30:10 of Morning Session on January 24 recording), it was noted that a significant majority of the dietary pattern studies used by the 2020 DGAC to reach their draft conclusion for all-cause mortality relied on a Mediterranean Dietary Index score developed in 2003 by Trichopolou et al (1, 10). The index developed by Trichopolou and co-workers applies the following scoring system: "For components presumed to be detrimental (meat, poultry, and dairy products, which are rarely nonfat or low-fat in Greece), persons whose consumption was below the median were assigned a value of 1, and persons whose consumption was at or above the median were assigned a value of 0 (10)." Dissecting this statement indicates the following:

- While "presumed detrimental," "meat" is neither defined as fresh or processed, "red" meat is not specifically cited, nor is a defined level of fat provided
- Poultry is presumed detrimental
- Dairy products are presumed detrimental

Relying on evidence derived using variations of this tool, the 2020 DGAC DP SC has written a draft conclusion regarding all-cause mortality indicating that **"lean meat or poultry" denotes a healthy dietary pattern and red and processed meat intake does not. Yet, the Trichopolou index does not discern processed meat, considers poultry detrimental, and does not define lean.** Despite the evolution of a leaner beef supply over the past several decades (11), lack of meat leanness descriptors is common in observational studies and leads to confusion when interpreting results, as noted by the 2015

DGAC (2, 3). **In addition, the 2020 DGAC draft conclusion statement above is lacking any recognition of dairy, which this commonly used score considers detrimental.**

In conclusion, attention to how meats were grouped when interpreting study results can more effectively contribute to public dietary guidance regarding meat intake (3, 8). Observational dietary pattern research often describes "unhealthy" dietary patterns based on saturated fat, sugar, sodium, and red meat content. Few analyze "healthy" diets that are low in these nutrients and include red meat consumption (9). **Outside of more specific and standardized food categories and descriptions for meat in observational studies, guidance can recognize evidence limitations and provide appropriate evidence grades (12).** While the understanding of beef's role in healthy dietary patterns can be confounded by limitations of dietary pattern methodology including inconsistent meat terminology, and the classification of beef in heterogeneous food categories (2, 3, 8)**, significant evidence supports beef's role as a foundational food that nourishes and optimizes Americans' health at every life stage (13). Consideration of best practices in the review of observational evidence can help ensure robust and reliable dietary recommendations (12).**

References

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