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Meluruskan Miskonsepsi tentang Pangan Ultra-Olahan ("UPF") & Kaitannya dengan Program MBG

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Kerangka Presentasi:

1. Pendahuluan
2. Sistem Klasifikasi NOVA
3. Identifikasi “UPF” versi NOVA
4. Miskonsepsi
5. Refleksi Ilmiah: Analisis Kritis Terhadap Sistem Klasifikasi NOVA
6. Problematika dalam Klasifikasi NOVA
7. Meluruskan Miskonsepsi "UPF“
8. Kaitannya dengan Program MBG
9. Kesimpulan

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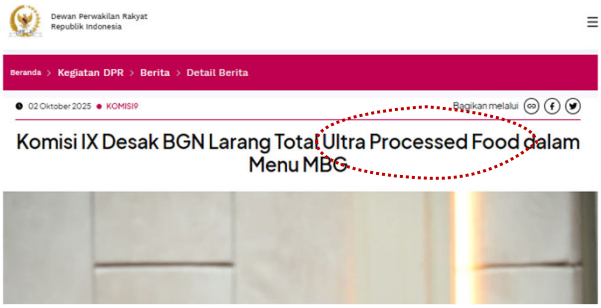
1. Pendahuluan

https://www.dpr.go.id/kegiatan-dpr/berita/Komisi-IX-Desak-BGN-Larang-Total-Ultra-Processed-Food-dalam-Menu-MBG-59927



https://www.bgn.go.id/news/berita/bgn-larang-makanan-ultra-proses-di-mbg-wajib-utamakan-produk-lokal

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1. Pendahuluan

Baca:

1. Monteiro (2009). DOI: https://doi.org/10.1017/S1368980009005291
2. Monteiro, et. al. (2010). https://pubmed.ncbi.nlm.nih.gov/21180977/
3. Monteiro, et al. (2016). https://www.worldnutritionjournal.org/index.php/wn/article/view/5
4. Monteiro, et al. (2019[a]). https://www.fao.org/3/ca5644en/ca5644en.pdf.
5. Monteiro, et al. (2019b). https://doi.org/10.1017/S1368980018003762

Public Health Nutrition

Ultra-processed foods: what they are and how to identify them

Part of: Ultra-processed foods

Published online by Cambridge University Press: **12 February 2019**

Carlos A Monteiro, Geoffrey Cannon, Renata B Levy, Jean-Claude Moubarac, Maria LC Louzada, Fernanda Rauber, Neha Khandpur, Gustavo Cediel, Daniela Neri and Euridice Martinez-Steele

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2. Sistem Klasifikasi NOVA

(Monteiro, 2019a)

Dasar klasifikasi:
Sifat, tingkat, dan tujuan pengolahan industrial yang dilakukan

1

Grup 1: Pangan tak diolah atau diolah minimal

Definisi:

a) **Pangan tak diolah** adalah bagian yang dapat dimakan dari (i) tumbuhan (misalnya buah, biji, daun, batang, akar, umbi) atau (ii) hewan (misalnya daging, lemak, jeroan, telur, susu), jamur, alga, dll setelah pemisahan (*after separation*) dari alam, termasuk air.

b) **Pangan diolah minimal** adalah **pangan tak diolah** (segar) yang diubah melalui metode pengeringan, penggilingan, pembekuan, pasteurisasi, dan pengemasan vakum, tanpa penambahan garam, gula, minyak, atau zat lainnya.

Contoh:
Buah & sayuran segar, diperas, didinginkan, dibekukan, atau dikeringkan; biji-bijian (beras/gandum; umbi-umbian; kacang-kacangan; susu segar atau pasteurisasi; yogurt polos (*plain*); teh, kopi, dan air minum.

2. Sistem Klasifikasi NOVA

(Monteiro, 2019a)

Dasar klasifikasi:
Sifat, tingkat, dan tujuan pengolahan industrial yang dilakukan

2

Grup 1: Pangan tak diolah atau diolah minimal

Grup 2: Bahan Kuliner Olahan

Definisi:

- Zat yang diperoleh langsung dari pangan Grup 1 atau alam melalui pengolahan industrial seperti pengepresan, sentrifugasi, pemurnian, ekstraksi atau penambangan (*mining*).
- Bahan ini digunakan untuk menyiapkan, membumbui, dan memasak pangan dari **Grup 1**.

Contoh:
Minyak nabati, mentega, gula, garam, madu, dan sirup.

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2. Sistem Klasifikasi NOVA

(Monteiro, 2019a)

Dasar klasifikasi:
Sifat, tingkat, dan tujuan pengolahan industrial yang dilakukan

3

Grup 1: Pangan tak diolah atau diolah minimal
Grup 2: Bahan Kuliner Olahan

Grup 3: Pangan Olahan

Definisi:

Produk yang dibuat dengan menambahkan garam, minyak, gula, atau bahan dari Grup 2 ke pangan Grup 1, menggunakan metode pengawetan seperti pengalengan, pembotolan, atau fermentasi non alkoholik. Pangan ini adalah versi modifikasi dari pangan **Grup 1.**

Contoh:
Sayuran kalengan, kacang asin, daging olahan, buah dalam sirup, roti segar, dan keju sederhana.

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2. Sistem Klasifikasi NOVA

(Monteiro, 2019a)

Dasar klasifikasi:
Sifat, tingkat, dan tujuan pengolahan industrial yang dilakukan

4

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Grup 1: Pangan tak diolah atau diolah minimal
Grup 2: Bahan Kuliner Olahan
Grup 3: Pangan Olahan
Grup 4: Pangan Ultra-Olahan

Definisi:
"The ultra-processed food group are formulations of ingredients, mostly of exclusive industrial use, that result from a series of industrial processes (hence 'ultra-processed')".

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3. Identifikasi "UPF" ?

Versi NOVA (Monteiro, 2019b)

Generally, the practical way to identify if a product is ultra-processed is to check to see if its list of ingredients contains at least one item characteristic of the ultra-processed food group, which is to say, either food substances never or rarely used in kitchens, or classes of additives whose function is to make the final product palatable or more appealing ('cosmetic additives').

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UMUMYA,
"UPF" jika:

- **Pada daftar bahannya memuat:**
  - ✓ **bahan pangan yang tidak pernah atau jarang digunakan di dapur rumah, atau**
  - ✓ **BTP yang berfungsi membuat produk lebih enak atau menarik (aditif kosmetik).**
- **Contoh:**
  - **Protein terhidrolisis, isolat protein kedelai, gluten, kasein, whey protein, daging hasil pemisahan mekanik, fruktosa, sirup jagung tinggi fruktosa, konsentrat jus buah, invert sugar, maltodekstrin, dekstrosa, laktosa, serat larut/tidak larut, minyak terhidrogenasi/teresterifikasi, dll.**
- **Kehadiran satu atau lebih bahan tersebut dianggap cukup untuk mengklasifikasikan produk sebagai "UPF".**

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3. Identifikasi "UPF" ?

Versi NOVA (Monteiro, 2019b)

Public Health Nutrition: 2019 Feb 12;22(5):936–941. doi: 10.1017/S1368980018003762

https://phariyadi.foodreview.co.id/

"UPF" dicirikan dengan:

1. Daftar bahan (*Ingredient*)

- **Menggunakan bahan-bahan "industrial" = bahan yang tidak/jarang digunakan di dapur.**
- **Bahan penciri umum:**
  - ***Refined sugars, high-fructose corn syrup (HFCS), maltodextrin***
  - ***Hydrogenated fats, modified oils, protein isolates, modified starches***
  - ***Cosmetic additives: flavorings, colorants, emulsifiers, thickeners, artificial sweeteners***

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3. Identifikasi "UPF" ?

Versi NOVA (Monteiro, 2019b)

Public Health Nutrition: 2019 Feb 12;22(5):936–941. doi: 10.1017/S1368980018003762

https://phariyadi.foodreview.co.id/

"UPF" dicirikan dengan:

1. Daftar bahan (*Ingredient*)

2. Teknik Pengolahan

- **Pengolahan melibatkan "multiple industrial steps" diluar dari keperluan pengawetan (*preservation*) atau keamanan – umumnya: merekonstruksi struktur dan tekstur.**
- **Pengolahan terkait UPF umumnya adalah:**
  - ***Fractionation and extraction (starch, oil, protein separation)***
  - ***Chemical or enzymatic modification (hydrogenation, hydrolysis)***
  - ***Extrusion, molding, recombination, pre-frying***
  - ***Advanced packaging (aseptic, multilayer barriers, inert gases)***

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"UPF" dicirikan dengan:

1. Daftar bahan (*Ingredient*)
2. Teknik Pengolahan
3. **Tujuan Pengolahan**

- Tujuan pengolahan UPF utamanya adalah menghasilkan produk yang "*highly profitable, convenient, and hyper-palatable*" dan cenderung menggantikan semua kelompok pangan lainnya.
  - Jadi, tujuan utamanya :
    - *Economic profit (low-cost inputs, long shelf life)*
    - *Sensory appeal (hyper-palatability, flavor engineering)*
    - *Convenience (ready-to-eat or ready-to-heat)*

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"UPF" dicirikan dengan:

1. Daftar bahan (*Ingredient*)
2. Teknik Pengolahan
3. Tujuan Pengolahan

4. **Marketing and Branding Context**

- Salah satu penciri UPF Adalah tentang strategi pemasarannya
- Fitur pemasaran/komersial umum untuk UPF:
  - *Strong industrial branding and global availability*
  - *Ready-to-consume packaging, single-serve formats*
  - *Emotional advertising appealing to lifestyle, fun, or status*

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3. Identifikasi "UPF" ?

Versi NOVA (Monteiro, 2019b)

"UPF"? Contoh:

- Carbonated soft drinks
- Sweet or savory packaged snacks
- Chocolate and candies (confectionery)
- Ice cream
- Mass-produced packaged breads and buns
- Margarines and other spreads
- Cookies (biscuits), pastries, cakes, & cake mixes
- Breakfast cereals
- Pre-prepared pies, pasta, and pizza dishes
- Poultry and fish nuggets and sticks
- Sausages, burgers, hot dogs, other reconstituted meat products
- Powdered and packaged instant soups, noodles, and desserts
- …

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4. Miskonsepsi

Versi NOVA

"UPF"? Contoh:

- Carbonated soft drinks
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(1) Serta-merta dinyatakan tidak menyehatkan

Ultra-processed foods are not 'real food'. As stated, they are formulations of food substances often modified by chemical processes and then assembled into ready-to-consume hyper-palatable food and drink products using flavours, colours, emulsifiers and a myriad of other cosmetic additives. Most are made and promoted by transnational and other giant corporations. Their ultra-processing makes them highly profitable, intensely appealing and intrinsically unhealthy.

Halaman 938

4. Miskonsepsi

Versi NOVA

"UPF"? Contoh:

- Carbonated soft drinks
- Sweet or savory packaged snacks
- Chocolate and candies (confectionery)
- Ice cream
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(2) Serta-merta dinyatakan tidak menyehatkan

The nature of the processes and ingredients used in their manufacture, and their displacement of unprocessed or minimally processed foods and freshly prepared dishes and meals, make ultra-processed foods intrinsically unhealthy.

Halaman 939

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4. Miskonsepsi

Versi NOVA

- **Serta-merta, "mendadak" → Tidak Menyehatkan ?**
  - **Banyak studi epidemiologis observasional** melaporkan *korelasi* antara konsumsi/asupan "UPF" tinggi → dengan risiko lebih besar terhadap:
    - Penyakit kardiovaskular (CVD)
    - Diabetes tipe 2 (T2DM)
    - Obesitas dan sindrom metabolic
    - Mortalitas umum dan kanker kolorektal

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4. Miskonsepsi
Versi NOVA

- **Serta-merta, "mendadak" → Tidak Menyehatkan ?**
  - **Banyak studi epidemiologis observasional**
    - **Studi epidemiologis observasional tidak dapat memastikan hubungan sebab-akibat, karena potensi pengaruh faktor perancu (mis. gaya hidup, sosioekonomi, dan mutu diet).**
    - **Oleh karena itu, temuan epidemiologis perlu dibaca dengan hati-hati — hubungan yang ditemukan bersifat *korelasi*, bukan bukti langsung *sebab-akibat.***

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4. Miskonsepsi
Versi NOVA

- **Serta-merta, "mendadak" → Tidak Menyehatkan ?**
  - **Banyak studi epidemiologis observasional**

British Heart Foundation

https://www.bhf.org.uk/informationsupport/heart-matters-magazine/news/behind-the-headlines/ultra-processed-foods

BHF Senior Dietitian Victoria Taylor said: "It's important to remember that observational studies like these can only show an association. They cannot tell us what is behind this. The classification of ultra-processed foods used by the researchers is very broad and so there could be a number of reasons why these foods are being linked to increased risk to our health, for example nutritional content, additives in food or other factors in a person's life. Before we consider making any changes to advice or policy it is important to understand this thoroughly."

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5. Refleksi Ilmiah: Tinjauan kritis terhadap Klasifikasi NOVA

a) Juul et al. 2021

JACC Volume 77, Number 12
https://www.jacc.org/doi/10.1016/j.jacc.2021.01.047

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Ultra-Processed Foods and Incident Cardiovascular Disease in the Framingham Offspring Study

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a) Juul et al. 2021

JACC Volume 77, Number 12
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Tidak semua "UPF" memberikan risiko CVD yang sama

overall CVD. Conversely, intake of breakfast cereals was associated with decreased risk of overall CVD. No statistically significant associations were observed for sugar-sweetened beverages, yoghurt, sweets and desserts, fast foods and other ultra-processed foods in multivariable-adjusted models.

TABLE 4 Association Between Intake of Specific Ultra-processed Foods (Servings/Week) in Relation to Incident Hard CVD (n = 251), Hard CHD (n = 163), and Overall CVD (n = 648)

	Hard CVD (n = 251)	Hard CHD (n = 163)	Overall CVD (n = 648)
Bread*	**1.02 (1.01-1.04)**	**1.02 (1.01-1.04)**	**1.01 (1.01-1.02)**
Sweets and desserts†	1.00 (0.98-1.01)	0.99 (0.97-1.01)	1.00 (0.99-1.01)
Ultra-processed meats‡	**1.05 (1.01-1.09)**	1.04 (0.99-1.10)	**1.05 (1.02-1.08)**
Salty snack foods§	**1.02 (1.00-1.03)**	**1.02 (1.01-1.04)**	1.01 (1.00-1.02)
Sugar-sweetened beverages¶	1.01 (0.98-1.03)	1.01 (0.99-1.04)	1.00 (0.98-1.02)
Low-calorie soft drinks‖	1.01 (0.99-1.03)	1.01 (0.99-1.03)	**1.01 (1.00-1.02)**
Fast foods#	0.98 (0.92-1.05)	1.00 (0.93-1.08)	1.03 (0.99-1.07)
Breakfast cereals**	0.95 (0.90-1.01)	0.98 (0.92-1.05)	**0.96 (0.93-1.00)**
Yoghurt	1.02 (0.95-1.09)	1.06 (0.98-1.14)	0.98 (0.93-1.03)
Other ultra-processed foods††	1.00 (0.99-1.02)	1.01 (0.99-1.02)	1.00 (0.99-1.01)

Values are hazard ratio (95% confidence interval). Models are adjusted for age (continuous), sex, education (categorized as 12 years or less, 13 to 15 years, and 16+ years), smoking status (never-smoker, current smoker, former smoker), alcohol intake (g/d), and physical activity (continuous) as time-varying covariates. Last observation was carried forward in case of missing data. **Bold** indicates statistical significance at $p \leq 0.05$. *Includes white and dark bread and English muffins/bagels. †Includes ready-made sweet rolls, pies, cookies, doughnuts, brownies, pancakes/waffles, muffins/biscuits, ice cream, sherbet/ice milk, candy bars, chocolate, and candy without chocolate. ‡Includes processed meats (e.g., sausage, bologna, salami), hot dogs, and meat sandwiches. §Includes chips, crackers, and popcorn. ¶Includes cola and noncola carbonated drinks with sugar, punch, lemonade, and other noncarbonated fruit drinks. ‖Includes low-calorie cola and noncola carbonated beverages (with/without caffeine). #Includes, pizza, hamburgers, French fries, and fried foods away from home. **Includes breakfast cereals containing additives such as flavors, colors, and preservatives not used in domestic cooking. ††Includes nondairy coffee whitener, margarine, liquor, and chili sauce.

Abbreviations as in Table 3.

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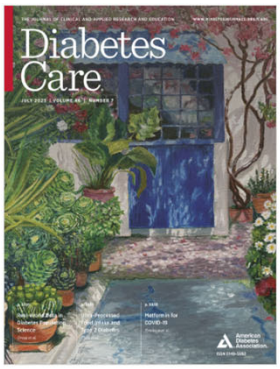
b) Chen et al. 2023.

Diabetes Care
2023;46(7):1335–1344
https://doi.org/10.2337/dc22-1993



ORIGINAL ARTICLE | FEBRUARY 28 2023

Ultra-Processed Food Consumption and Risk of Type 2 Diabetes: Three Large Prospective U.S. Cohort Studies FREE

Zhangling Chen; Neha Khandpur; Clémence Desjardins; Lu Wang; Carlos A. Monteiro; Walter C. Willett; Eric B. Rimm; Frank B. Hu;

Zhangling Chen

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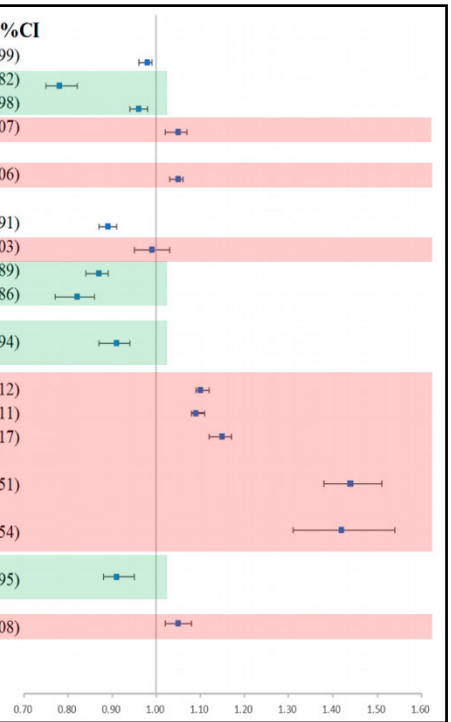
5. Refleksi Ilmiah

b) Chen et al. 2023.

Diabetes Care
2023;46(7):1335–1344
https://doi.org/10.2337/dc22-1993

Subgroups	HR and 95%CI
Ultra-processed breads and cereals	0.98 (0.96, 0.99)
Ultra-processed cereals	0.78 (0.75, 0.82)
Ultra-processed dark breads and whole-grain breads	0.96 (0.94, 0.98)
Other ultra-processed refined breads	1.05 (1.02, 1.07)
Sauces, spreads, and condiments	1.05 (1.03, 1.06)
Packaged sweet snacks and desserts	0.89 (0.87, 0.91)
Confectioneries	0.99 (0.95, 1.03)
Packaged sweet snacks	0.87 (0.84, 0.89)
Fruit-based products	0.82 (0.77, 0.86)
Packaged savory snacks	0.91 (0.87, 0.94)
Artificially and sugar-sweetened beverages	1.10 (1.09, 1.12)
Artificially sweetened beverages	1.09 (1.08, 1.11)
Sugar-sweetened beverages	1.15 (1.12, 1.17)
Animal-based products	1.44 (1.38, 1.51)
Ready-to-eat/heat mixed dishes	1.42 (1.31, 1.54)
Yogurt and dairy-based desserts	0.91 (0.88, 0.95)
Other ultra-processed foods	1.05 (1.02, 1.08)



Kode Warna :

Associated with HIGHER T2D risk

Associated with LOWER T2D risk

Tidak semua Sama: Risiko T2D berbeda antar sub-grup "UPF"

Hariyadi, P. 2025, Meluruskan Miskonsepsi tentang Pangan Ultra-Olahan ("UPF") & Kaitannya dengan Program MBG. Disampaikan pada "SEMINAR EXPERT AND GENERAL LECTURE" dalam rangka memeringati Hari Kesehatan Nasional ke-61. Poltekkes Kemenkes Tasikmalaya. 15 November 2025

5. Refleksi Ilmiah: Tinjauan kritis terhadap Klasifikasi NOVA

c) Mendoza et al. 2024.

The Lancet Regional Health - Americas 2024;37: 100859
Published Online 2 September 2024
https://doi.org/10.1016/j.lana.2024.100859

Articles

Ultra-processed foods and cardiovascular disease: analysis of three large US prospective cohorts and a systematic review and meta-analysis of prospective cohort studies

Kenny Mendoza,[a] Stephanie A. Smith-Warner,[a,b] Sinara Laurini Rossato,[a,c] Neha Khandpur,[d] JoAnn E. Manson,[b,e,f] Lu Qi,[g] Eric B. Rimm,[a,b,h] Kenneth J. Mukamal,[i] Walter C. Willett,[a,b] Molin Wang,[b,h,j] Frank B. Hu,[a,b,h] Josiemer Mattei,[a,k,*] and Qi Sun[a,b,h,k]

[a]Department of Nutrition, Harvard T.H. Chan School of Public Health, Boston, MA, USA
[b]Department of Epidemiology, Harvard T.H. Chan School of Public Health, Boston, MA, USA
[c]Federal University of Uberlândia, Uberlândia, State of Minas Gerais, Brazil
[d]Wageningen University, Wageningen, Netherlands
[e]Harvard Medical School, Boston, MA, USA
[f]Division of Preventive Medicine, Department of Medicine, Brigham and Women's Hospital, Boston, MA, USA
[g]Tulane University Obesity Research Center, Tulane University, New Orleans, LA, USA
[h]Channing Division of Network Medicine, Department of Medicine, Brigham and Women's Hospital, Boston, MA, USA
[i]Beth Israel Deaconess Medical Center, Boston, MA, USA
[j]Department of Biostatistics, Harvard T.H. Chan School of Public Health, Boston, MA, USA

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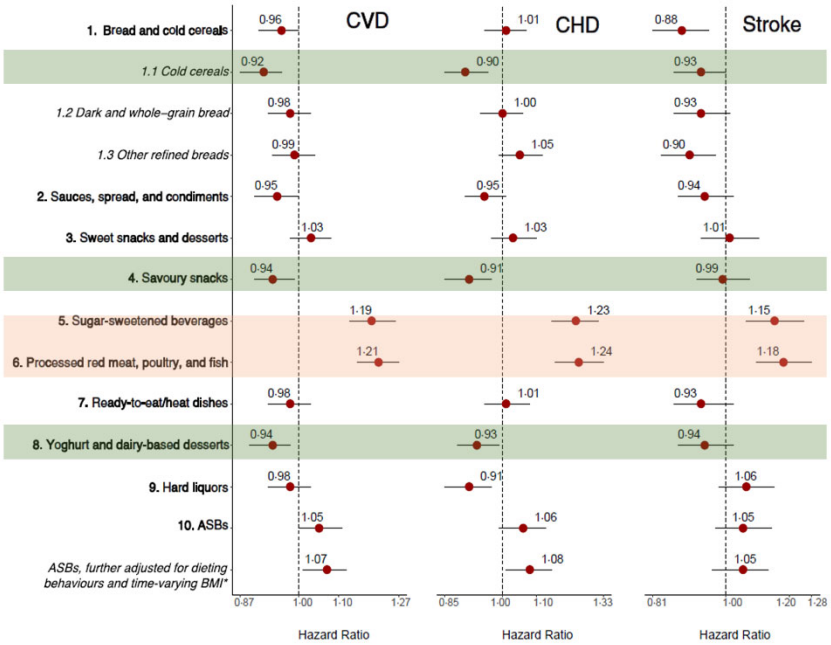
- **"UPF" groups demonstrated divergent associations.**
- **Sugar-/artificially-sweetened drinks and processed meats were associated with higher CVD risk, whereas inverse associations were observed for bread/cold cereals, yoghurt/dairy desserts, and savoury snacks**



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journal homepage: https://jn.nutrition.org/

Community and International Nutrition

Dietary Guidelines Meet NOVA: Developing a Menu for A Healthy Dietary Pattern Using Ultra-Processed Foods

Julie M. Hess [1,*], Madeline E. Comeau [1], Shanon Casperson [1], Joanne L. Slavin [2], Guy H. Johnson [3], Mark Messina [4], Susan Raatz [2], Angela J. Scheett [1,5], Anne Bodensteiner [6], Daniel G. Palmer [1,5]

[1] US Department of Agriculture, Agriculture Research Services, Grand Forks Human Nutrition Research Center, Grand Forks, North Dakota, United States; [2] Department of Food Science and Nutrition, University of Minnesota, Minneapolis, MN, United States; [3] Johnson Nutrition Solutions, LLC, Minneapolis, MN, United States; [4] Soy Nutrition Institute Global, Washington, DC, United States; [5] University of North Dakota, Grand Forks, ND, United States; [6] University of North Dakota, Department of Nutrition and Dietetics, Grand Forks, North Dakota, United States

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Community and International Nutrition

Dietary Guidelines Meet NOVA: Developing a Menu for A Healthy Dietary Pattern Using Ultra-Processed Foods

A B S T R A C T

Background: A proposed topic for the 2025 Dietary Guidelines for Americans (DGA) Scientific Advisory Committee to address is the relationship between dietary patterns with ultra-processed foods (UPF) and body composition and weight status. Implementing the NOVA system, the most commonly applied framework for determining whether a food is "ultra-processed," in dietary guidance could omit several nutrient-dense foods from recommended healthy diets in the DGA.

Objective: The purpose of this proof-of-concept study was to determine the feasibility of building a menu that aligns with recommendations for a healthy dietary pattern from the 2020 DGA and includes ≥80% kcal from UPF as defined by NOVA.

Design: To accomplish this objective, we first developed a list of foods that fit NOVA criteria for UPF, fit within dietary patterns in the 2020 DGA, and are commonly consumed by Americans. We then used these foods to develop a 7-d, 2000 kcal menu modeled on MyPyramid sample menus and assessed this menu for nutrient content as well as for diet quality using the Healthy Eating Index-2015 (HEI-2015).

Results: In the ultra-processed DGA menu that was created, 91% of kcal were from UPF, or NOVA category 4. The HEI-2015 score was 86 out of a possible 100 points. This sample menu did not achieve a perfect score due primarily to excess sodium and an insufficient amount of whole grains. This menu provided adequate amounts of all macro- and micronutrients except vitamin D, vitamin E, and choline.

Conclusions: Healthy dietary patterns can include most of their energy from UPF, still receive a high diet quality score, and contain adequate amounts of most macro- and micronutrients.

5. Refleksi Ilmiah

→ Miskonsepsi ttg sistem NOVA & UPF perlu "diluruskan"

a) **Juul et al. 2021**
JACC Volume 77, Number 12
https://www.jacc.org/doi/10.1016/j.jacc.2021.01.047
→ Tidak semua kel-4 ("UPF") memberikan risiko CVD yang sama

b) **Chen et al. 2023.**
Diabetes Care 2023;46(7):1335–1344 https://doi.org/10.2337/dc22-1993
→ Tidak semua kel-4 ("UPF") memberikan risiko Diabetes yang sama; sebagian menurunkan, sebagian meningkatkan risiko

c) **Mendoza et al. 2024.**
The Lancet Regional Health – Americas 2024;37: 100859. Published Online 2 September 2024
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→ Tidak semua kel-4 ("UPF") memberikan risiko CVD yang sama. Beberapa (roti gandum, yogurt, sereal dingin) berkaitan dengan risiko CVD lebih rendah, sedangkan minuman berpemanis dan daging olahan lebih tinggi

d) **Hess, et al. 2023.**
The Journal of Nutrition 153 (2023) 2472–2481
https://doi.org/10.1016/j.tjnut.2023.06.028
→ Pola makan sehat sesuai pedoman gizi dapat disusun melibatkan produk "UPF" tanpa menurunkan kualitas gizi → Keberadaan "UPF" tidak **otomatis** berarti "tidak sehat."

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Generalisasi "UPF" = tidak sehat" adalah tidak akurat.

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6. Problematika dalam Klasifikasi NOVA

i. Definisi kompleks → berpotensi membingungkan, bahkan *misleading* ....

Ultra-processed foods: how functional is the NOVA system?

Véronique Braesco[1], Isabelle Souchon[2], Patrick Sauvant[3,4], Typhaine Haurogné[5], Matthieu Maillot[5], Catherine Féart[6] and Nicole Darmon[7]

© The Author(s) 2022

BACKGROUND: In the NOVA classification system, descriptive criteria are used to assign foods to one of four groups based on processing-related criteria. Although NOVA is widely used, its robustness and functionality remain largely unexplored. We determined whether this system leads to consistent food assignments by users.
METHODS: French food and nutrition specialists completed an online survey in which they assigned foods to NOVA groups. The survey comprised two lists: one with 120 marketed food products with ingredient information and one with 111 generic food items without ingredient information. We quantified assignment consistency among evaluators using Fleiss' κ (range: 0–1, where 1 = 100% agreement). Hierarchical clustering on principal components identified clusters of foods with similar distributions of NOVA assignments.
RESULTS: Fleiss' κ was 0.32 and 0.34 for the marketed foods ($n = 159$ evaluators) and generic foods ($n = 177$ evaluators), respectively. There were three clusters within the marketed foods: one contained 90 foods largely assigned to NOVA4 (91% of assignments), while the two others displayed greater assignment heterogeneity. There were four clusters within the generic foods: three clusters contained foods mostly assigned to a single NOVA group (69–79% of assignments), and the fourth cluster comprised 28 foods whose assignments were more evenly distributed across the four NOVA groups.
CONCLUSIONS: Although assignments were more consistent for some foods than others, overall consistency among evaluators was low, even when ingredient information was available. These results suggest current NOVA criteria do not allow for robust and functional food assignments.

European Journal of Clinical Nutrition (2022) 76:1245–1253; https://doi.org/10.1038/s41430-022-01099-1

Braesco, V., Souchon, I., Sauvant, P. *et al.* 2022.
Ultra-processed foods: how functional is the NOVA system?.
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6. Problematika dalam Klasifikasi NOVA

i. Definisi kompleks → berpotensi membingungkan, bahkan *misleading* ....

- **Definisi dan Kriteria Ambigu, Tidak Konsisten dan Sulit Direproduksi**
  - ✓ Tingkat kesepakatan antar ahli sangat rendah (Fleiss' κ hanya ±0,3).
  - ✓ Produk yang sama bisa diklasifikasikan berbeda, tergantung siapa yang menilai dan informasi apa yang tersedia.
  - ✓ Banyak pangan dapat masuk ke lebih dari satu grup NOVA.
- **Mengabaikan Nilai Gizi dan Fungsi Teknologi**
  - ✓ Beberapa produk yang digolongkan sebagai "UPF" justru padat gizi dan bermanfaat bagi kesehatan.

Braesco, V., Souchon, I., Sauvant, P. *et al.* 2022.
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6. Problematika dalam Klasifikasi NOVA

i. Definisi kompleks

ii. Mencampurkan pengolahan & formulasi

npj | science of food — Article
Published in partnership with Beijing Technology and Business University & International Union of Food Science and Technology
https://doi.org/10.1038/s41538-025-00395-x

Defining the role of processing in food classification systems—the IUFoST formulation & processing approach

Check for updates

Lilia Ahrné[1], Hongda Chen[2], Christiani J. Henry[3], Hyun-Sook Kim[4], Barbara Schneeman[5] & Erich J. Windhab[6]

The Task Force on Food Processing for Nutrition, Diet and Health established by the International Union of Food Science and Technology (IUFoST) has developed a rational approach to determine the impact of food processing on the nutritional value of processed foods, called the IUFoST Formulation and Processing Classification (IF&PC) scheme which is comprehensively reported here. The purpose of developing this scheme is (A) to address the current confusion between formulation and processing and thereby offer assistance to improve and refine the controversial NOVA classification system, and (B) to explore the potential for considering other relevant essential food attributes, such as (a) safety, (b) sustainability, (c) palatability, (d) affordability, and (e) convenience in food product classification. The authors recommend that this IUFoST initiative be further investigated and complemented based on concerted R&D interactions of food scientists, food engineers, and nutritionists.

Ahrné, L., Chen, H., Henry, C.J. *et al.* 2025. Defining the role of processing in food classification systems—the IUFoST formulation & processing approach. *npj Sci Food* **9**, 56 (2025). https://doi.org/10.1038/s41538-025-00395-x

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6. Problematika dalam Klasifikasi NOVA

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ii. Mencampurkan pengolahan & formulasi

npj | science of food — Article
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- **Kelemahan Konseptual Klasifikasi NOVA**
  - Walaupun klasifikasi ini dikatakan berbasis pada Tingkat/level pengolahan, tetapi kenyataannya tidak.
  - Lebih berfokus pada formulasi:
    - (i) Penggunaan bahan industrial (HFCS, isolat protein, pemanis buatan, dll)
    - (ii) Termasuk mempertimbangkan aspek pemasaran (kemasan, branding, iklan) untuk mencirikan UPF
- **Mencampuradukkan Formulasi dan Pengolahan**
  - Menimbulkan kebingungan, bias persepsi, dan ketidak-akuratan → produk bergizi dapat dicap sebagai UPF = serta-merta tidak menyehatkan
  - Membangun Persepsi Negatif → istilah "ultra-processed" mengesankan semua proses merugikan tanpa dasar ilmiah.

Ahrné, L., Chen, H., Henry, C.J. *et al.* 2025. Defining the role of processing in food classification systems—the IUFoST formulation & processing approach. *npj Sci Food* **9**, 56 (2025). https://doi.org/10.1038/s41538-025-00395-x

6. Problematika dalam Klasifikasi NOVA

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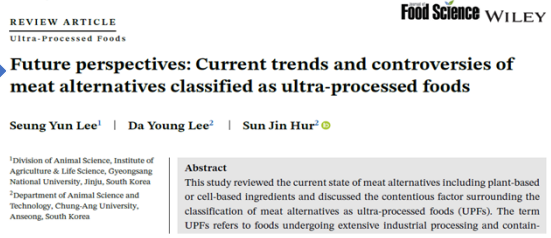
iii. Menghambat inovasi pangan keberkelanjutan

Lee, Lee, & Hur. (2024).
J. Food Sci.. https://doi.org/10.1111/1750-3841.17355


Food Science WILEY
REVIEW ARTICLE
Ultra-Processed Foods
Future perspectives: Current trends and controversies of meat alternatives classified as ultra-processed foods
Seung Yun Lee[1] | Da Young Lee[2] | Sun Jin Hur[2]
[1]Division of Animal Science, Institute of Agriculture & Life Science, Gyeongsang National University, Jinju, South Korea
[2]Department of Animal Science and Technology, Chung-Ang University, Anseong, South Korea
Abstract
This study reviewed the current state of meat alternatives including plant-based or cell-based ingredients and discussed the contentious factor surrounding the classification of meat alternatives as ultra-processed foods (UPFs). The term UPFs refers to foods undergoing extensive industrial processing and contain-

Messina and Messina (2024).
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https://doi.org/10.1111/1750-3841.70039

Food Science WILEY
REVIEW ARTICLE
Ultra-processed Foods
Nova fails to appreciate the value of plant-based meat and dairy alternatives in the diet
Mark Messina[1] | Virgina Messina[2]
[1]Soy Nutrition Institute Global, Jefferson City, Missouri, USA
[2]Nutrition Matters, Inc., Pittsfield, Massachusetts, USA
Correspondence
Mark Messina, SNIGlobal.org, 26 Spadina Parkway, Pittsfield, MA 01201, USA.
Email: Mark.Messina@SNIGlobal.org
Abstract
Processed foods play an important role in achieving both food and nutrition security. However, in recent years, there has been increased concern about the health effects of food processing, in large part because of the emergence of the Nova food classification system. Nova classifies all foods into one of four groups purportedly based entirely on the extent to which they have been processed. Recommendations to limit intake of ultra-processed foods (UPF) (group 4) are based primarily on observational studies showing that their intake is associated with a range of

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NOVA (dan UPF) Terlalu Menggeneralisasi:

- **Menghambat inovasi pangan keberkelanjutan (= *plant-based and cell-based proteins*)**
- **Menghambat pemenuhan kebutuhan pangan untuk penduduk yang terus bertambah.**
- ***Misleading* …**
  - → **Menganggap semua pangan (ultra)-olahan "tidak sehat" tanpa melihat nilai gizinya.**
  - → **mengarahkan regulasi, mendorong kebijakan tanpa bukti ilmiah.**
  - → **"Menghukum" teknologi proses pangan penting (pemanasan, ekstrusi, dan fortifikasi) yang justru menjamin keamanan dan keterjangkauan pangan.**

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iv. Karakterisasi risiko (= tidak sehat?) tidak berdasar pd jenis bahaya (hazard) yang jelas teridentifikasi.

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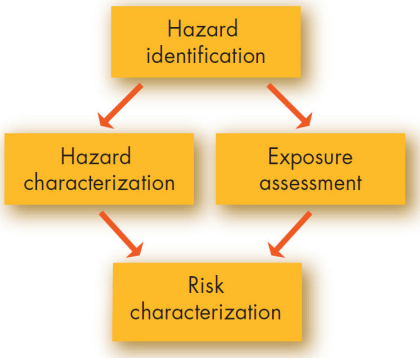
Codex CXG 62-2007 [Working Principles for Risk Analysis for Food Safety for Application by Governments]:

Penilaian risiko terdiri dari 4 langkah:

(i) Identifikasi Bahaya (*hazard identification*)
(ii) Karakterisasi Bahaya (*hazard characterization*)
(iii) Penilaian Paparan (*exposure assessment*), dan
(iv) Karakterisasi Risiko (*risk characterization*)



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(i) Identifikasi Bahaya?

- Apakah gula, garam, lemak jenuh/trans?
- Apakah kasein, laktosa, whey, dan gluten?
- Atau, minyak terhidrogenasi atau teresterifikasi, protein terhidrolisis, isolat protein kedelai, maltodekstrin, dan sirup jagung fruktosa?
- Atau, aditif?
  - pengawet, antioksidan, stabilisator, pewarna, penstabil warna, perisa, penguat rasa, pengisi, & anti-gumpal, ...dll .....

?
Bahaya (*hazard*) tidak teridentifikasi (Grup 4) dengan jelas.

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(i) Identifikasi Bahaya?

- …. dll…, atau
- Apakah merek (*branded*)?
- Apakah karena praktis (tahan lama, siap konsumsi), sangat lezat (*palatable*), sangat menguntungkan bagi industr (*profitable,* bahan baku murah)?
- Apakah karena produk tsb dikemas secara menarik dan dipasarkan secara intensif.
- **Atau …**

?
Bahaya (*hazard*) tidak teridentifikasi (Grup 4) dengan jelas.

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6. Problematika dalam Klasifikasi NOVA

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iii. Menghambat inovasi pangan keberkelanjutan

iv. Karakterisasi risiko (= tidak sehat?) tidak berdasar pd jenis bahaya (hazard) yang jelas teridentifikasi.

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(i) Identifikasi Bahaya?
~~(ii) Hazard Characterisation?~~
~~(iii) Exposure?~~
Langsung ke
(iv) Risk Chracterization? → → Group 4 = UPF = Tidak Sehat

Ke"Tidak jelas"an tentang *Hazard* → Memprihatinkan

Karena → Memunculkan persepsi (anggapan) PENGOLAHAN = BAHAYA (*HAZZARD*)
→ Stigma (persepsi) negatif terhadap **PENGOLAHAN** pangan
→ **Berpotensi menganggu sistem (ketahanan) pangan !**

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iii. Menghambat inovasi pangan keberkelanjutan
iv. Karakterisasi risiko (= tidak sehat?) tidak berdasar pd jenis bahaya (hazard) yang jelas teridentifikasi.

v. Stigma (persepsi) negatif → berdampak pada kinerja sistem pangan

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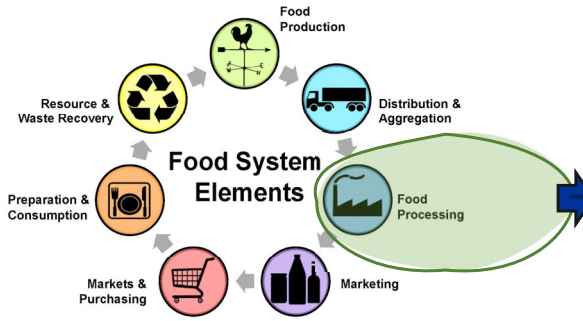

Adapted by Christy Shi, Center for Environmental Farming Systems.
From: Wilkins, J. and Eames-Sheavly, M. Discovering the Food System; An experiential learning program for young and inquiring minds.
Cornell University, Departments of Nutritional Science and Horticulture. http://www.discoverfoodsys.cornell.edu/

Bagian Esensial Sistem Pangan

- Pengolahan pangan adalah penghubung penting antara produksi dan konsumsi dalam sistem pangan.
- Mengubah bahan pertanian mentah menjadi pangan, memastikan ketersediaan pangan yang aman, bergizi, dan sesuai kebutuhan masyarakat.

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6. Problematika dalam Klasifikasi NOVA

i. Definisi kompleks
ii. Mencampurkan pengolahan & formulasi
iii. Menghambat inovasi pangan keberkelanjutan
iv. Karakterisasi risiko (= tidak sehat?) tidak berdasar pd jenis bahaya (hazard) yang jelas teridentifikasi.

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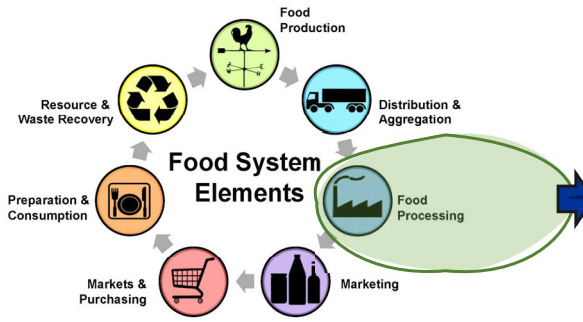

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Bagian Esensial Sistem Pangan

- Menjamin keamanan pangan
- Meningkatkan kandungan gizi (fortifikasi)
- Memperpanjang masa simpan pangan
- Meningkatkan aksesibilitas (kemudahan, keterjangkauan, dan ketersediaan)
- Meningkatkan nilai ekonomi pangan
- Mendorong diversifikasi produk dan sumber pangan
- Meningkatkan keberlanjutan (mengurangi kehilangan dan limbah pangan, serta meningkatkan efisiensi proses)
- …

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6. Problematika dalam Klasifikasi NOVA

i. Definisi kompleks
ii. Mencampurkan pengolahan & formulasi
iii. Menghambat inovasi pangan keberkelanjutan
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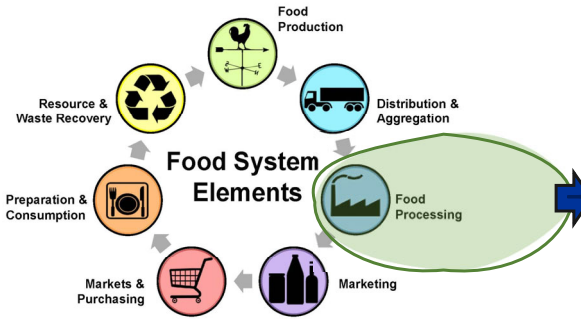

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Apa yang Perlu Dilakukan ?

- **Meluruskan persepsi publik dan kebijakan** → pengolahan adalah bagian esensial sistem pangan
- **Mendorong inovasi berbasis ilmu dan teknologi pangan** → pangan aman, bergizi, dan berkelanjutan bagi populasi yang tumbuh.
- **Mengembangkan klasifikasi pangan yang lebih ilmiah dan proporsional** → tidak menstigma seluruh pangan (ultra) olahan tidak sehat.
- **Memperkuat komunikasi ilmiah dan lintas disiplin** → antara ahli gizi, teknologi pangan, dan pembuat kebijakan — demi keputusan berbasis bukti (*evidence-based policy*).

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7. Meluruskan Miskonsepsi UPF?

Britis Nutrition Foundation (2024)
https://www.nutrition.org.uk/media/3ylbwf3s/british-nutrition-foundation-upf-position-statement_updated-may-2024.pdf

British Nutrition Foundation

The concept of ultra-processed foods (UPF)

Position statement (updated May 2024)

British Nutrition Foundation position statements set out our views on important areas in food and nutrition and provide guidance to researchers, regulatory agencies and policy makers, health professionals, the food industry and the media. This position statements was produced by our team of expert nutrition scientists and reviewed by the Chair of the Board of Trustees and the Foundation's Scientific Committee, a group of independent experts that advises on the interpretation and translation of scientific information as part of our governance.

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7. Meluruskan Miskonsepsi UPF?

Britis Nutrition Foundation (2024)
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British Nutrition Foundation

The concept of ultra-processed foods (UPF)

Position statement (updated May 2024)

Discussions on UPF bring a welcome opportunity to highlight the importance of healthier dietary patterns. The Scientific Advisory Committee on Nutrition (SACN) 2023 position *statement* evaluating the classification and the suitability of UPF as a dietary exposure has provided some clarity in this area. In agreement with SACN, at present, the British Nutrition Foundation believes that due to the lack of agreed definition, the need for better understanding of the mechanisms involved and concern about its usefulness as a tool to identify healthier products, UPF does not warrant inclusion in national dietary guidelines. However, strong and comprehensive action to improve the food environment is critical to reduce the high prevalence of obesity and non-communicable diseases. In addition, research to improve our understanding of the mechanisms linking UPF with adverse health outcomes is warranted to provide translatable advice to manufacturers and retailers in relation to any other aspects of foods/drinks, beyond their nutritional composition, that may influence healthier dietary choices.

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Britis Nutrition Foundation (2024)
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British Nutrition Foundation

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Position statement (updated May 2024)

- In UK policy, HFSS foods and drinks are defined using the FSA nutrient profile model which also considers beneficial nutrients/food components (i.e. fibre, protein, fruit, vegetables and nuts). Many UPF have poor nutrient profiles, are high in ingredients widely recommended to be limited and low in ingredients we want to encourage (e.g. some biscuits, confectionary, cakes and fried/salty snacks). Displacement of healthy foods with these would be detrimental to health. However, the definition of UPF can also include foods such as sliced wholemeal bread and lower sugar wholegrain breakfast cereals which can contribute to an affordable healthy, balanced diet.

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7. Meluruskan Miskonsepsi UPF?

Britis Nutrition Foundation (2024)

https://www.nutrition.org.uk/media/3ylbwf3s/british-nutrition-foundation-upf-position-statement_updated-may-2024.pdf

The concept of ultra-processed foods (UPF)

Position statement (updated May 2024)

- Classification systems that categorise foods based on the 'extent of processing', are not universally accepted. The most widely used and applied UPF definition in the scientific literature is from the NOVA food classification system but this has been criticised for being too broad across and within categories. For example, a lower sugar wholegrain breakfast cereal with chicory inulin isolate, a high-sugar refined breakfast cereal, a multi-seed sliced wholemeal loaf and a white sliced loaf would all be classified as UPF. It has been suggested by critics that NOVA is difficult to interpret, challenging to apply robustly to dietary data (e.g. food frequency questionnaires are usually not validated to assess UPF) and its scientific rationale has been questioned. As it can imply that expensive artisanal products are superior for health, the health equity of advice to limit intake of UPF in the current backdrop of rising food insecurity and the cost of living crisis is also an important consideration. Furthermore, its application for use with consumers to change dietary behaviour has not been fully investigated. The UPF definition also includes foods and drinks needed for medical or nutritional purposes (e.g. gluten free products, fortified plant-based milk alternatives), for which there is often no accessible or convenient alternative.

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Britis Nutrition Foundation (2024)

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The concept of ultra-processed foods (UPF)

Position statement (updated May 2024)

case. Some UPF foods such as vegetable-based sauces can aid the preparation of low-cost nutritious home-cooked meals, by combining these with basic ingredients such as a protein source (e.g. canned fish/pulses), wholegrain or higher fibre starchy foods and vegetables. Alongside improvement to the food environment, we would like to see innovative, inclusive and actionable support to help consumers identify and prepare nutrient-dense, healthier meals and snacks, which can include healthier processed foods.

- It is useful to consider whether messaging to avoid UPF might discourage industry from reformulation to improve the nutritional profile of products including both the addition and removal of nutrients of public health importance.
- As food processing plays a relevant role in food system sustainability and ensuring food security, consideration also needs to be given to the environmental impact of different UPFs to support advice on healthier and more sustainable dietary choices.

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7. Meluruskan Miskonsepsi UPF?

Vadiveloo et al. (2025)
https://www.ahajournals.org/doi/epub/10.1161/CIR.0000000000001365

AHA SCIENCE ADVISORY

Ultraprocessed Foods and Their Association With Cardiometabolic Health: Evidence, Gaps, and Opportunities: A Science Advisory From the American Heart Association

Maya K. Vadiveloo, PhD, RD, FAHA, Chair; Christopher D. Gardner, PhD, FAHA, Vice Chair; Sara N. Bleich, PhD; Neha Khandpur, ScD; Alice H. Lichtenstein, DSc, FAHA; Jennifer J. Otten, PhD, RD; Casey M. Rebholz, PhD, MS, MPH, FAHA; Chelsea R. Singleton, PhD, MPH; Miriam B. Vos, MD, MSPH, FAHA; Selina Wang, PhD; on behalf of the American Heart Association Council on Lifestyle and Cardiometabolic Health; Council on Cardiovascular and Stroke Nursing; Council on Clinical Cardiology; Council on Genomic and Precision Medicine; and Stroke Council

ABSTRACT: Ultraprocessed foods and beverages (UPFs) pose a growing public health challenge. Commonly defined by the Nova system, UPFs are industrially processed products made with additives or ingredients not commonly used in home cooking. Although ultraprocessing or extensive processing can lower cost and improve shelf life, convenience, and taste of certain products, high UPF intake is consistently linked to negative health outcomes. Although mechanisms remain unclear, evidence supports food policies that limit UPF intake while avoiding unintended consequences. Identifying high-risk UPF subgroups is essential to balancing nutritional goals with the need for accessible and appealing food options. Most UPFs overlap with foods high in saturated fat, added sugars, and sodium, which are already targets for cardiometabolic risk reduction. Future priorities include uncovering how UPFs specifically affect cardiometabolic health, refining dietary guidance to discourage nutrient-poor UPFs, and clarifying the impact of UPFs with more favorable profiles. This science advisory reviews current evidence on UPFs and their impact on cardiometabolic health and outlines research needs, regulatory reform, and policy changes needed to affect better dietary intake and overall health.

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7. Meluruskan Miskonsepsi UPF?

Vadiveloo et al. (2025)
https://www.ahajournals.org/doi/epub/10.1161/CIR.0000000000001365

Lay Summary

Ultraprocessed foods (UPFs) are a new way to describe foods according to whether certain additives are used, distinct from traditional nutrients and natural ingredients. UPFs are a growing concern because of widespread consumption and potential impact on health risks. These foods often contain additives widely used in industrial food production and not commonly used in home cooking. It is estimated that >70% of grocery store items and more than half of the calories in the average US diet come from foods containing at least one of these.

Most of the foods containing industrial additives are also high in unhealthy fats, added sugars, and salt. Although the additives are part of the issue, the main problem is that children and adults in the United States eat excessive amounts of nutritionally poor UPFs. These include items like sugary drinks, processed meats, refined grains, candies, baked goods, and chips—commonly referred to as junk food. These foods have long been discouraged by US and American Heart Association dietary guidelines.

The advisory reinforces current dietary guidelines:

- Reduce the intake of most UPFs, especially junk foods, and
- Replace most UPFs with healthier options such as vegetables, fruits, whole grains, beans, nuts, seeds, healthy oils, and lean proteins.

However, not all UPFs are harmful. Certain whole grain breads, low-sugar yogurts, tomato sauces, and nut or bean-based spreads are of better diet quality, have been associated with improved health outcomes, and are affordable, allowing possible inclusion in diets. These food products should be monitored and reformulated if future data show harm to overall health.

The focus should be on cutting back the most harmful UPFs that are already high in unhealthy fats, added sugars, and salt while allowing a small number of select, affordable UPFs of better diet quality to be consumed as part of a healthy dietary pattern.

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7. Meluruskan Miskonsepsi UPF?

EDITORIAL
***Nature* 645, 7 (2025)**
https://www.nature.com/articles/d41586-025-02750-0

The international journal of science / 4 September 2025

nature

Ultra-processed foods – it's time for an improved definition

The worst excesses of industrial food production must be reined in, while ensuring people have access to adequate calories.

Later this month, the United Nations General Assembly will discuss a proposal to eliminate *trans*-fatty acids (trans fats) from diets. These fats are mainly produced industrially. They clog up arteries, increasing people's risk of a heart attack or death. Some 60 countries are already on a path to eliminating these fats and the World Health Organization has certified that 9 have removed industrially produced trans fats from their food supply.

Eliminating these fats will be a win. However, a coalition of public-health researchers and institutions in Europe and in low- and middle-income countries is urging countries to ensure that the language of the UN declaration refers specifically to industrially produced trans fats, which it doesn't at present. This is because trans fats also occur in natural products, such as milk and other dairy products.

In a letter coordinated by the International Livestock Research Institute, a non-profit organization based in Addis Ababa, and backed by the African Union, signatories say that nations need to be careful that the proposal does not inadvertently discourage foods that are important for nutrition, especially in poor countries. They are making an important point. Researchers have a responsibility to push for accuracy and precision and to reduce the possibility of unintended consequences in public-health policy.

The debate about trans fats feeds into a broader argument in the dietary science and policy field that is similarly rising up the global agenda. Industrially produced trans fats are a common component of ultra-processed foods – an umbrella term for products that are made using industrial ingredients and food extracts with additives. These food products are often high in salt, sugar and saturated fats. Latin America has been leading the world both in drawing attention to ultra-processed foods and in taking action to discourage their production and consumption given accumulating evidence of the links such products have to obesity and cardiovascular disease[2].

Ultra-processed foods are an active area of study, but researchers are also debating what the term means and how to reduce the risk that its use will have unintended consequences[3]. It was described in a 2009 paper by Carlos Monteiro, a nutrition researcher at the University of Sao Paulo, Brazil[1]. Foods are categorized using a scale (called the NOVA classification system) that groups them according to the extent, type and reason of processing (see go.nature.com/4nbza72). At one end are minimally processed items that require relatively little processing, such as frozen vegetables and pasta. At the other end are ultra-processed foods, which contain products that you won't find in most kitchens.

The study and the NOVA scale have had a considerable impact on health policy. The classification system, which is recognized by the UN Food and Agriculture Organization in Rome, has pushed many governments to develop strong public-health policies, often despite organized and sustained opposition from food conglomerates. Latin American countries, for example, are mandating warning labels and levying taxes on food products that are high in salt, sugar and saturated fat.

However, as we report in a News Feature on page 22, some researchers say that the NOVA scale has its limitations, because processing is only one factor that explains why people eat such foods and what effects they have on the body. Dietary habits are also influenced by palatability – there is some evidence that people are attracted to products that are easy to consume, such as soft-textured or fast foods, or include ingredients that can increase cravings. The number of calories per portion (energy density) also influences people's dietary habits. Another difficulty with the scale is that the ultra-processed category also includes some varieties of bread and baby formula as well as hot dogs and chicken nuggets, even though the reasons for processing each of these products are different.

The developers of the NOVA system agree that the act of processing on its own is not the issue, and that some forms – milk pasteurization to remove bacteria, for example, or the chilling or freezing of vegetables to prolong shelf life – are beneficial.

Governments and regulatory bodies need to be more aware of these issues, and there is a need to clarify the definition of ultra-processed foods and reduce the unintended effects of using a vague term. US health secretary Robert F. Kennedy Jr, one of the strongest critics of ultra-processed foods, has issued a call for a uniform definition so that there is consistency in research and policy. In the United Kingdom, the country's main research funder, UK Research and Innovation, has commissioned several studies to test public awareness of and attitudes towards these foods, the results of which are due to be reported next year.

The 2009 study shone a much-needed spotlight on dietary changes, including the replacement of conventionally prepared meals with industrially produced foods. But there is a spectrum of dietary issues worldwide; obesity is a growing problem, but so is a lack of access to sufficient calories. This means that there cannot be a one-size-fits-all solution. Government intervention must ensure that the worst excesses of industrial food production are reined in, while ensuring the availability of appropriate food for all.

1. Gonzalez-Gil, E. M. *et al. Lancet Reg. Health Eur.* **50**, 101008 (2025).
2. Louzada, M. L. C. *Proc. Nutr. Soc.* https://doi.org/10.1017/S0029665125100464 (2025).
3. Monteiro, C. A. *Public Health Nutr.* **12**, 729–731 (2009).

> "There is a need to clarify the definition of ultra-processed foods and reduce the unintended effects of using a vague term."

Nature | Vol 645 | 4 September 2025 | 7

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7. Meluruskan Miskonsepsi UPF?

The international journal of science / 4 September 2025
nature

EDITORIAL
***Nature* 645, 7 (2025)**
https://www.nature.com/articles/d41586-025-02750-0

- **Istilah yang tidak jelas:**
  "UPF" bersifat ambigu dan dapat menimbulkan dampak kebijakan yang tidak diinginkan → perlu definisi yang lebih ilmiah dan terukur.
- **Alasan pengolahan beragam:**
  Kategori UPF terlalu luas, mencakup produk dengan fungsi dan tujuan berbeda — berisiko *misleading* … dan menghambat konsumsi pangan bergizi.
- **Tantangan global:**
  Pendekatan tunggal tidak sesuai untuk konteks gizi dunia yang beragam; kebijakan harus mempertimbangkan ketersediaan pangan yang memadai.

> **"There is a need to clarify the definition of ultra-processed foods and reduce the unintended effects of using a vague term."**

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7. Meluruskan Miskonsepsi UPF?

Comments of IUFoST, 2025. (CAC48/CRD26)
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IUFoST

CODEX ALIMENTARIUS COMMISSION

Food and Agriculture Organization of the United Nations

World Health Organization

Viale delle Terme di Caracalla, 00153 Rome, Italy - Tel: (+39) 06 57051 - E-mail: codex@fao.org - www.codexalimentarius.org

Agenda Item 1

CAC48/CRD26
Original Language Only

JOINT FAO/WHO FOOD STANDARDS PROGRAMME
CODEX ALIMENTARIUS COMMISSION
Forty-eighth Session
Rome, Italy
10-14 November 2025

ADVANCING SCIENCE-BASED FOOD CLASSIFICATION: THE CASE FOR CODEX LEADERSHIP IN ADDRESSING THE "ULTRA-PROCESSED" DISCOURSE

(Submitted by the International Union of Food Science and Technology (IUFoST))

https://phariyadi.foodreview.co.id/

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1. Background and Context

In recent years, the growing discourse on so-called "ultra-processed foods" (UPFs) has significantly shaped public debate, influencing dietary guidelines, consumer behaviour, and policy discussions in several countries. Despite the strong public interest, the concept remains ill-defined and not anchored in a standardized scientific framework. The term "ultra-processed" has been used inconsistently across studies and policy documents, often conflating formulation and processing, and resulting in divergent interpretations. At the 44th Session of the Codex Committee on Nutrition and Foods for Special Dietary Uses (CCNFSDU44), delegations noted the absence of a global definition and cautioned that reliance on processing level as a classification parameter could misclassify safe, nutritious foods and discourage beneficial technologies. While acknowledging the World Health Organization's (WHO's) planned expert consultation on diet quality and UPFs, members emphasized that Codex currently lacks a coordinated, evidence-based framework for food classification, which is essential for coherent international policy-making.

7. Meluruskan Miskonsepsi UPF?

Comments of IUFoST, 2025. (CAC48/CRD26)
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1. **Background and Context**
2. **The Current Challenge: Lack of Methodological and Conceptual Clarity**

Food classification systems that use processing level as the defining criterion—such as those underpinning the NOVA framework—raise significant methodological and policy challenges. The conflation of 'processing' (technological transformation) with 'formulation' (nutrient composition) leads to ambiguity, making it difficult to interpret, reproduce, or apply consistently in regulatory or public health contexts. Different actors—including governments, academia, and civil society—use the term 'ultra-processed' differently, leading to confusion and policy inconsistency. Given the cross-sectoral nature of food classification, which affects nutrition, agriculture, and trade, such lack of clarity undermines coherence and risks creating unscientific policy outcomes.

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7. Meluruskan Miskonsepsi UPF?

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1. **Background and Context**
2. **The Current Challenge: Lack of Methodological and Conceptual Clarity**
3. **Policy Implications Across Sectors**

Classification systems that are not scientifically grounded can have unintended and far-reaching implications. They may discourage the use of essential food technologies—such as pasteurization, fortification, and reformulation for nutrient delivery—that support public health objectives. They may also lead to incoherent policy signals, misinform consumers, and create barriers to trade if countries adopt inconsistent criteria. Globally, such classifications could negatively affect market access, consumer perception, and competitiveness across diverse food systems. Given the interconnectedness of health, agriculture, and trade policies, Codex leadership is essential to ensure that food classification systems remain evidence-based, fair, and harmonized at the international level.

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7. Meluruskan Miskonsepsi UPF?

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1. **Background and Context**
2. **The Current Challenge: Lack of Methodological and Conceptual Clarity**
3. **Policy Implications Across Sectors**
7. **Conclusion**

The growing debate around "ultra-processed foods" underscores the urgent need for a globally coherent, scientifically sound, and transparent approach to food classification. Given its unique mandate at the intersection of health, agriculture, and trade, the Codex Alimentarius Commission is best positioned to lead this discussion and ensure that future work on food classification is grounded in evidence and aligned with Codex principles. Fragmented initiatives outside a Codex framework risk producing inconsistent definitions and policy interpretations, creating confusion for governments, industry, and consumers alike.

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7. Meluruskan Miskonsepsi UPF?

Comments of IFT, 2025. (CAC48/CRD44)
https://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FMeetings%252FCX-701-48%252FCRDs%252Fcac48_crd44.pdf

IFT feeding the minds that feed the world

CODEX ALIMENTARIUS COMMISSION

Food and Agriculture Organization of the United Nations

World Health Organization

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WHO is proceeding with work on guidelines for consumption of "Ultra-Processed" foods that was announced to Codex in 2024. However, IFT is concerned that the purpose of this work, and the definitions it is using, differs in focus from, the "coordinated, evidence-based framework for food classification" that Codex requires, as noted by IUFoST in CRD26. Therefore, IFT encourages CAC48 to initiate its own work on a scientifically based, consensus driven approach to developing food classifications focused on consumer health.

- IFT believes the current definitions of "ultra-processed" are imprecise for scientific classification of foods regarding their healthfulness for global consumers and instead recommends that CAC consider setting up an ad hoc task force as a mechanism to address the topic of scientifically based healthy food classification, as its impact cuts across the scope of responsibility of multiple Codex committees (i.e., CCNFSDU, CCFL, CCFA, CCFICS). IFT recommends that such a CAC initiated ad hoc task force could include input from the WHO guidelines being developed but would not be dependent upon them and should be organized independently of that efforts' timeline.
- IFT believes a global consensus definition for the classification of healthful foods is essential for CAC to undertake to address the confusion regarding the use of "ultra-processed" foods by following the established scientific approach used regularly within Codex.

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8. Kaitannya dengan Program MBG?

Program MBG membutuhkan pangan **aman, bergizi, stabil, dan terjangkau**

i. **Bisa diperoleh dari pangan olahan, bahkan dari pangan yang dilabel sebagai "UPF"**

- Tidak semua UPF memberi risiko kesehatan yang sama
  - Data dari 3 studi (Juul 2021; Chen 2023; Mendoza 2024) menunjukkan heterogenitas risiko di antara subgrup UPF.
    - Beberapa yang dilabel UPF, bersifat meningkatkan risiko kesehatan (umumnya jenis yang tinggi gula, garam, atau lemak),

tetapi

    - Beberapa yang lain (seperti whole-grain cereals, yoghurt, dairy desserts, savoury snacks rendah lemak, dan roti gandum) menunjukkan asosiasi risiko yang lebih rendah atau bahkan protektif terhadap CVD/T2D.

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8. Kaitannya dengan Program MBG?

Program MBG perlu pangan **aman, bergizi, stabil, dan terjangkau**

i. Bisa diperoleh dari pangan olahan, bahkan dari pangan yang dilabel sebagai "UPF"

ii. **Melarang pangan olahan, termasuk "UPF", secara total bisa berpeluang menyingkirkan pangan aman, bergizi yang justru dibutuhkan MBG**

- Bukti: susu UHT

- Potensi lainnya?
  - pangan fortifikasi,
  - nugget/bakso, atau
  - pangan olahan IMK lainnya:
    - ✓rempeyek,
    - ✓pempek,
    - ✓serundeng,
    - ✓abon,
    - ✓dll (dengan standar keamanan, gizi dan mutu yang "SESUAI")

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8. Kaitannya dengan Program MBG?

Standar keamanan, gizi dan mutu yang "SESUAI" (spesifikasi dapat ditetapkan) → Industri Mikro & Kecil (IMK) Pangan Lokal

BPS (2025) https://www.bps.go.id/id/publication/2025/09/16/a83f105e49377d0a7434e62a/profil-industri-mikro-dan-kecil-2024.html

- Jumlah usaha IMK (2024) = 4.413.443 unit.
- Sekitar 44% (1.942.850 unit) usaha IMK di Indonesia adalah industri makanan (KBLI 10), jumlah tenaga kerja = 4.305.344

✓ IMK berbasis pada sumberdaya dan kearifan pangan lokal:
- Pempek **Palembang**, Sambal Pecel **Madiun**, aneka abon, serundeng, Dll
- Telah menjadi identitas budaya & produk industri pangan lokal

✓ MBG → Memberdayakan IMK Pangan Olahan → ekonomi lokal!
- Menjamin keamanan pangan lebih baik
- Memperkuat sistem pangan dan kesejahteraan Masyarakat lokal

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9. Kesimpulan (i)

Konsep "UPF" dalam sistem NOVA tidak konsisten, terlalu heterogen dan perlu diluruskan secara ilmiah, untuk bisa dijadikan dasar kebijakan pangan dan gizi – misalnya pelarangan penggunaannya dalam program MBG.

- Bukti ilmiah (Juul 2021, Chen 2023, Mendoza 2024) menunjukkan bahwa risiko UPF berbeda antar-subgrup → sebagian justru protektif terhadap CVD/T2D.
- Sistem NOVA mencampur-adukkan proses & formulasi, sehingga tidak akurat dalam menilai risiko.
- Posisi resmi beberapa organisasi ilmiah: → Definisi UPF tidak presisi dan berpotensi menyesatkan kebijakan.

- Melarang/ menghindaris semua pagan olahan, termasuk yang dilabel sebagai "UPF" perlu ditinjau ulang.
- Perlu pendekatan berbasis sains & risiko.

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9. Kesimpulan (ii)

Program MBG **membutuhkan pangan olahan yang aman, bergizi, dan stabil** — banyak di antaranya diklasifikasikan sebagai UPF oleh NOVA: karena itu perlu "diluruskan".

- Banyak produk pangan olahan berperan penting untuk memastikan keamanan, gizi dan kesehatan (termasuk pangan fortifikasi, pangan olahan lokal, dll).
- Melarang pangan olahan dengan "label UPF" secara total:
  - menghilangkan sumber protein, serat, dan fortifikasi
  - menyulitkan logistik & meningkatkan risiko KLB
  - menghambat keterlibatan IMK/UMKM pangan olahan lokal = brand lokal

- MBG perlu didukung dengan pangan olahan yang aman
- SESUAI standar Keamanan BPOM (MD)/Kemenkes (PIRT)/SNI, dan memenuhi nilai gizi seimbang.

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9. Kesimpulan (iii)

Keberhasilan kebijakan/program kesehatan/gizi, termasuk program MBG, ditentukan oleh keamanan pangan, kualitas gizi, standar proses dan keterlibatan masyarakat lokal.

- Seleksi pangan harus berbasis ***risk assessment***, bukan klasifikasi NOVA dan label UPF.
- Gunakan pangan olahan yang:
  - Aman
  - Sesuai standar BPOM (MD)/kemenkes (PIRT)/SNI
  - Bernilai gizi baik dan sesuai (fortifikasi, whole-grain, dairy)
  - Produksi IMK lokal
- Hindari pangan olahan **yang terbukti berisiko**, yaitu yang tinggi gula, garam, dan lemak.

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Terima kasih

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