Nutrient Profiling to Support Healthy Diets: Policy Implementation in South-East Asia

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- Introduction- unhealthy diets, general principles and science of nutrient profiling
- Food classifications- nutrient based profiling or other (food based classifications) for public health policies
- WHO Regional models, and the updated South- East Asia Region Nutrient profile model
- Healthy diet policy implementation and challenges
- Profiling out of home foods/ready to serve foods
- Nutrient profiling for young child diets
- Looking ahead

HEALTHY DIET | UNHEALTHY DIET

Overall Quality — Nutrient-dense and balanced | Energy-dense but nutrient-poor

Calories — Appropriate for age and activity

Macronutrients — Balanced carbohydrate-protein, and healthy fat | High added sugars
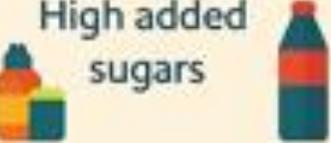
Sugar — Minimal added sugars | Excessive salt intake

Heavy reliance on highly processed foods

Food Processing — Mostly fresh or minima-lly processed

Unhealthy diet

Characterized by high intakes of foods

- high in saturated fatty acids, trans-fatty acids, free sugars and/or salt

- highly processed

- high intakes associated with negative outcomes

- low intakes of healthier foods such as fruit, vegetables, nuts, and whole grains.

A pattern of eating that fails to provide the body with essential nutrients and/or increases the risk of disease over time.

Policy tools to promote healthier diets

- Rising burden of obesity, diabetes, CVD linked to unhealthy diets.

- Highly processed foods dominate markets; consumers need easy-to-understand guidance.

- Greater consumption of out of home foods and ready to serve foods, high in nutrients of concern
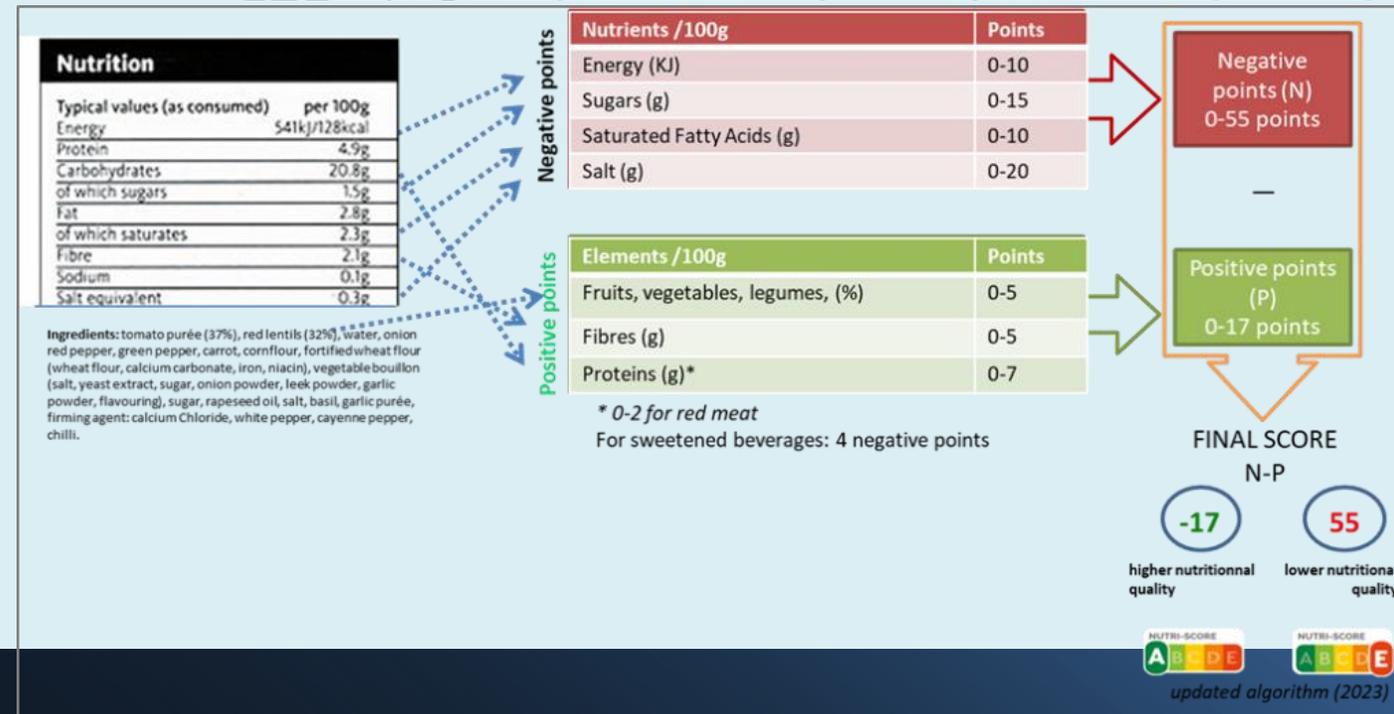
Need objective method to classify foods, particularly to implement legal instruments

NUTRITION EDUCATION

DIETARY COUNSELING

BEHAVIOUR CHANGE COMMUNICATION

Regulating food marketing and advertising to children

Setting thresholds for front of pack labelling

Reformululation of food products to an improved profile

Public food procurement ad service policies

Scientific basis for evaluating nut-tion and healt cla-

Setting criteria for food taxation

Food service standards in schools

Regulating quality and marketing offood for older infants and young children

Nutrient profiling

- Scientific, classifying/ranking individual foods based on nutritional composition - set criteria per reference amounts.

- Nutrient-based profiling determines 'healthfulness' based on levels of specific nutrients associated with metabolic risks.

- Calculates overall nutritional quality by assigning thresholds or points for the relevant nutrients to limit.

- Application of policy tools aimed at improving diets and reducing dietary risk of NCDs.

	SODIUM	FREE SUGARS	NON-SUGAR SWEETENERS	TOTAL FAT	SATURATED FAT	TRANS FAT
	≥ 1 mg of sodium per 1 kcal	≥ 10% of total energy from free sugars	any amount of non-sugar sweeteners	≥ 30% of total energy from total fat	≥ 10% of total energy from saturated fat	≥1% of total energy from trans fat

Nutrients /100g	Points
Energy (KJ)	0-10
Sugars (g)	0-15
Saturated Fatty Acids (g)	0-10
Salt (g)	0-20

Negative points (N) 0-55 points

Elements /100g	Points
Fruits, vegetables, legumes, (%)	0-5
Fibres (g)	0-5
Proteins (g)*	0-7

* 0-2 for red meat
For sweetened beverages: 4 negative points

Positive points (P) 0-17 points

FINAL SCORE N-P

-17 higher nutritionnal quality

55 lower nutritional quality

updated algorithm (2023)

The science of nutrient profiling

Nutrients - salt, sugar, fat, micronutrients, fiber, protein. Some include degree of processing, ingredients, combine nutrient thresholds with food-based criteria; local context, evidence to be considered

Food categories: Criteria based on food categories or across the board.

Threshold systems- foods pass or fail based on single cut-offs per nutrient to limit.
Scoring systems- points assigned based on positive and negative nutrients (e.g., Nutri-Score);

Compensation: beneficial points offset detrimental points. If non-compensatory, , being over threshold in any one nutrient to limit classifies food as contributing to less healthy diets regardless of the presence of nutrients to encourage). * *safeguarding against 'balancing-out' of harmful nutrients, by adding healthier ingredients is vital*

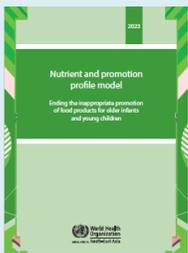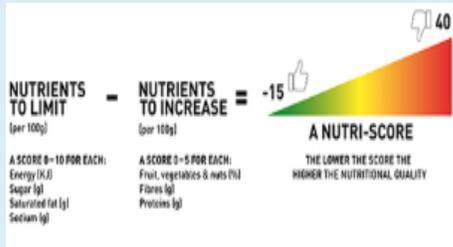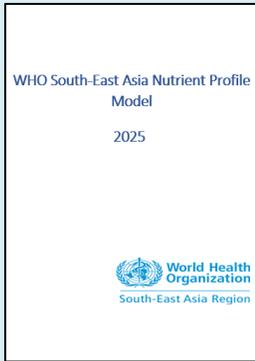**Reference base:** (100 g/100 mL, 100 kcal) or serving size

Science contd…

Algorithms: based on nutrient intake goals, daily reference values, food based dietary guidelines

Validation: if NPS classifies the healthiness of foods and beverages appropriately

- criterion validation- assess relationship between foods rated as healthier by the NPS and objective measures of health (CVD risk, or all cause mortality), is *best to ensure accuracy*.
- content validity- evaluating the extent to which the NPS can discriminate between and rank product healthiness based on the current scientific literature.
- convergent validity- comparing the agreement of product classification according to the NPS against classifications obtained according to another method (e.g. dietary guidelines)
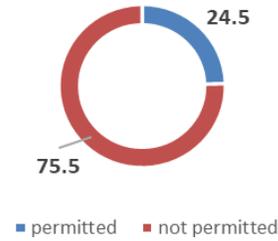
Nutrient profiling approaches

MODEL	METHOD	KEY NUTRIENTS	SCORING/THRESHOLD	SPECIAL NOTES
WHO SEARO (update 2026)	Category-specific, energy- based thresholds,(2000 kcal/d diet) use of nutrient intake goals	Fat, sugar, salt, energy, trans-fat, sweeteners	Category specific fixed cut-offs	Marketing restrictions, school foods, taxation, some FoPLs (many policies with adaptations)
PAHO	Across the board, one set of thresholds for ultra processed and processed foods, energy based	Sugars, sodium, fats	% energy & density-based fixed cut offs	Focus on ultra-processed foods- Front-of-pack labels, taxation, school food policies
WHO EURO (2023)	Category specific, energy based (2000kcal/d), use of nutrient intake goals	Sugar, fat, energy, sweeteners	Category-specific fixed cut-offs	Updated 2023
OFCOM	Points-based scoring	Energy, sat fat, sugar, sodium	A–C scoring system	Food Advertising controls
Nutri-Score	Algorithmic scoring	Energy, sugar, sat fat, sodium; fiber, protein, fruits/veg	A–E grade	Front of pack label
WHO SEARO nutrient and promotion profile model (2024)	Category specific	Energy density, protein, fat, sugar, salt	Threshold, marketing criteria included	Marketing and product restrictions on food products for older infants and young children

GOAL OF ALL SYSTEMS - REDUCE INTAKE OF UNHEALTHY DIETS

Updated NPM 2026, SE Asia

Aspect	Description
Transparency	Clear and understandable methodology for stakeholders
Food Categories	Reduced to 16 for ease of use
Policy Applicability	Supports multiple healthy diet policies
Methodology	**Algorithm uses energy levels to calculate criteria, based on nutrient intake goals** **Approach 1**. 230 kcal/100g for snacks and non-essential foods **Approach 2**. 500 kcal/100g for composite meals **Approach 3**. Average energy content of category products for healthy food items Food technology considerations included
Validation	Prototype models tested against food databases, against other models and confirmed for reliability

SEAR NPM (2017)
24.5
75.5
■ permitted ■ not permitted

EURO NPM (2023)
26.8
73.2
■ permitted ■ not permitted

Prototype 2A
19.9
80.1
■ permitted ■ not permitted

Prototype 2B
20.1
79.9
■ permitted ■ not permitted

Prototype 3A
27.7
72.3
■ permitted ■ not permitted

Prototype 3B
27.9
72.1
■ permitted ■ not permitted
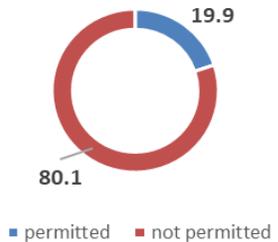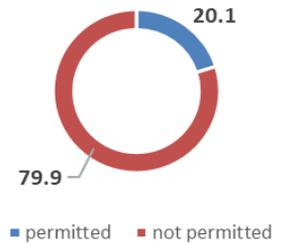
Prototype 3C
30.3
69.7
■ permitted ■ not permitted
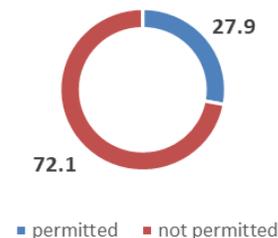
South- East Asia

Rapidly changing dietary patterns: unhealthy food environments (packaged and ready to eat, high in nutrients of concern and low in vital nutrients), stagnating undernutrition, micronutrient deficiencies, excess weight gain, metabolic disorders

Trends in prevalence of overweight and thinness in children, GHO 2022 data
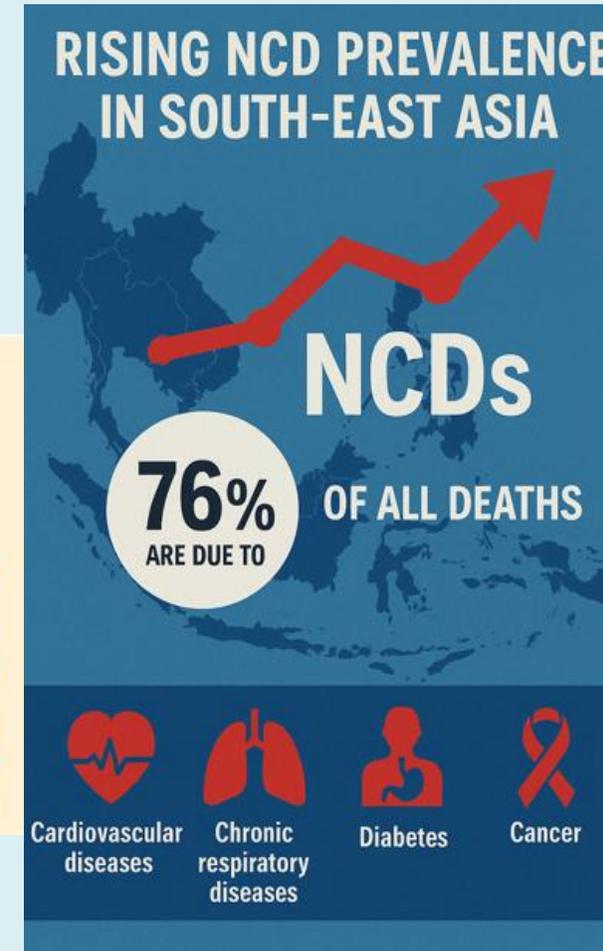

Trends in prevalence of thiness and overweight in adolescents (10-19 years), South-East Asia Region

INCREASING INTAKE OF PACKAGED AND PROCESSED FOODS — 36% INCREASE

READY-TO-EAT FOOD CONSUMPTICIN IS INCREASNG

READY-TO-EAT FOOD CONSUMPTIOR IS INCREASING

RISING NCD PREVALENCE IN SOUTH-EAST ASIA

NCDs

76% ARE DUE TO OF ALL DEATHS

Cardiovascular diseases · Chronic respiratory diseases · Diabetes · Cancer

Policies being implemented across South-East Asia countries

Behaviour change communication, counseling, nutrition literacy

Front of pack labelling – traffic lights, warning labels, GDA labels,

Restricting unhealthy food marketing in different media

School dietary environment – ready to serve foods- different categorization (food based) needed and being developed.

Young child diets (6-36 months)- setting product standards, restricting claims, and marketing

Product reformulation – using regional sodium benchmarks – separate set of sodium benchmarks https://www.who.int/publications/i/item/9789290210818

Public Food procurement standards

Applications of nutrient profiling and challenges

Nutrient profiling is in high demand

Regional model and thresholds **serve as prototypes and a basis for adaptation by countries**.

Government led development of NPM for national policy implementation

NPM's for FoPL's depends on FoPL system

Challenges

Undernutrition, micronutrient deficiencies need consideration.

Inaccuracies in back- of panel labelling and poor enforcement

Multiple NPM's – WHO, other agencies, industry

Lack of harmonization of labelling across countries, transparency issues

Industry interference when developing thresholds/criteria- pushback to make thresholds lenient

Complexities in developing criteria for healthfulness of ready to serve (out of home) foods, - significant proportion of diet in Asia
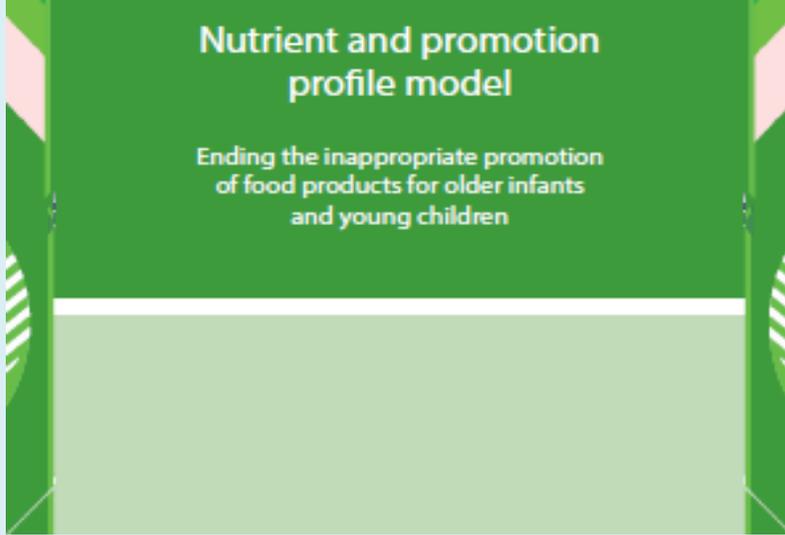
Classification systems based on foods

Recipe based classification is not easily implementable in many LMICs due to variety of recipes; informal food sector

Simple, food- based classification systems needed since recipes vary for the same product-- nutrient contents vary.

Practical, low cost, simple and implementable. Ongoing work….

🟩 Foods allowed to be sold in school canteens.

🟧 Foods allowed to be sold in school canteens, only if matching relevant criteria

🟥 Foods not to be sold in school canteens.

Food Category	Item	🟩 Allowed	🟧 Allowed with Conditions	🟥 Not Allowed	Notes/Conditions
Beverages	Mineral water	✅			Not frozen
	Pasteurized milk/Laban (low-fat, flavored)		✅		Fortified with Vit D & Calcium; strawberry, banana, chocolate flavors only
	Fruit juice (100% unsweetened)	🟩	✅		Max 250 ml, fortified with Vit C
	Hot tea/coffee (intermediate secondary only)	🟩	✅		Serve in paper cups; No 3-in-1; milk + sugar only
	Fruit drinks/nectars			❌	
	Soft drinks			❌	
	Energy drinks			❌	
Sandwiches	Grilled chicken, cheese, falafel, egg, etc.		✅		Whole wheat bread, low-fat cheese, veg toppings, no fried potato, mustard/ketchup ok
	Processed meat (sausage, mortadella)			❌	
	Chicken mayonnaise			❌	

Nutrient and promotion profile model

Nutrient and promotion profile model

Ending the inappropriate promotion of food products for older infants and young children

In line with WHA Decision 69.9, a model that provides benchmarks/criteria for nutrients and for restricting marketing of **Food products for older infants and young children (commercial baby foods)** was developed. (thresholds consider double burden of malnutrition).

- Products are aggressively marketed, rising sales.
- Variable nutrient quality: lack variety, high sugar, pureed texture.
- Misleading labelling, quasi health claims.
- in use for benchmarking and revising regulations

Category	Subcategory		Energy density	Proteins	Total fat
Cereal-based processed foods	1.1	Cereals without added high protein	≥80 kcal/100 g	No threshold	≤3.3 g/100 kcal
	1.2	Cereals with added high protein food		3–5.5 g/100 kcal	≤4.5 g/100 kcal
	1.3	Pasta, noodles and like products		≥3 g/100 kcal	
	1.4	Rusks and biscuits		3–5.5 g/100 kcal	≤3.3 g/100 kcal
Canned baby foods	Legumes and pulse-based products		≥80 kcal/100g	≥3.75 g/100 kcal	≤4.5 g/100 kcal
	Products with animal protein source as the only ingredient			No threshold	≤6.0 g/100 kcal
	Products with animal protein source singularly or in combination, and mentioned first in the name (whether or not the product is presented as a meal)			≥4 g/100 kcal	≤4.5 g/100 kcal
	Dishes with dairy products as the first or only ingredient			≥2.2 g/100 kcal	≤4.5 g/100 kcal
	Fruit and vegetable-based products			Total sugar ≤3.75 g/100 kcal, sodium ≤50 mg/100 kcal	

Total sugar is limited to ≤3.75 g/100 kcal for all food categories

Sodium is limited to ≤50 mg/100 kcal for all food categories

Conclusions and way forward

Harmonization at regional or global level - of principles and methods, while localizing application and interpretation to align with local food cultures.

What should be harmonized? Nutrients of concern; scientific basis (population intake goals, energy standardization); transparency of algorithms, governance

Governance committees convened or endorsed by governments or WHO, with clear conflict-of-interest rules. NPM's to implement public health policies: most robust when thresholds are set through independent scientific committees . Industry input can be through consultations, but must not control final decisions.

Food Rating Systems: Many NPSs now include other characteristics such as food ingredients, processing, and additives- ie broader than nutrient profiling alone

Consistent consumer messaging on less healthy foods by emphasizing a shift toward healthier, minimally processed foods, rather than promoting alternative products within the same highly processed category.

THANK YOU

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