2022년 대한임상건강증진학회

추계학술대회

우리나라와 주요 국가의 영양소 섭취기준 비교

김혜숙(이화여대)

대한임상건강증진학회
Korean Society for Health Promotion and Disease Prevention

대한임상건강증진학회

Korean Society for Health Promotion and Disease Prevention

CONTENTS

2020
한국인영양소섭취기준
주요 변화
01

2020 한국인영양소섭취기준

영양 결핍

정상적인 신체기능/성장 그리고 영양결핍증 예방을 위한 기준치

1962년 FAO 한국지부 | 1995년 한국영양학회 | 2000년

영양 과잉

안전하고 충분한 영양섭취를 위한 기준치

2010년 한국영양학회 | 2015년 보건복지부/한국영양학회

만성질환 위험감소

만성질환발생 위험 감소를 위한 기준치 추가

2020년 보건복지부/한국영양학회

영양소섭취기준의 종류: 비타민, 무기질, 단백질

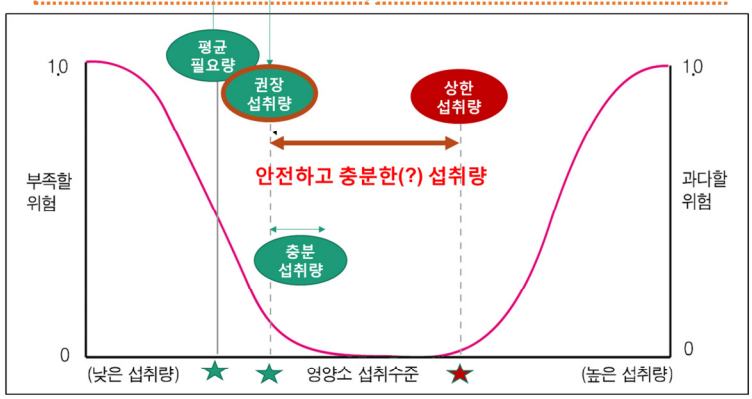
안전하고 충분한 영양섭취 기준치

충분섭취량 (AI)
- 과학적 근거자료가 부족하여 평균필요량 설정이 어려운 경우
- 건강한 사람들의 영양소 섭취량을 관찰하여 정한 중앙값

상한섭취량 (UL)
- 인체에 유해한 영향을 나타내지 않는 최대 섭취량
- 최대무해용량 또는 최저유해용량에 불확실계수를 감안하여 산출한 값

평균섭취량 (EAR)
- 과학에 근거하여 건강한 사람의 절반 (50%)의 하루 필요량을 충족시키는 값

권장섭취량 (RNI)
- 건강한 사람 97.5%의 하루 필요량을 충족시키는 값
- 평균필요량에 표준편차의 2배를 더하여 정함.



EAR, estimated average requirement; RNI, recommended nutrient intake, AI, adequate intake, UL, tolerable upper intake level

2020 한국인영양소섭취기준 대상 영양소

총 40종

- 에너지
- 영양소 38종
  - 탄수화물 (+ 총당, 첨가당)
  - 식이섬유
  - 단백질 (+아미노산)
  - 지질 (+알파리놀렌산, 리놀레산, EPA+DHA, 콜레스테롤)
  - 에너지 생산 영양소 균형
  - 비타민(13)
    - 지용성: A、D、E、K
    - 수용성: C, 티아민, 리보플라빈, 니아신, B6, 엽산, B12, 판토텐산, 비오틴
  - 무기질 (15)
    - 다량: 칼슘, 인, 나트륨/염소, 칼륨, 마그네슘
    - 미량: 철, 아연, 구리, 불소, 망간, 요오드, 셀레늄, 몰리브덴, 크롬
- 수분

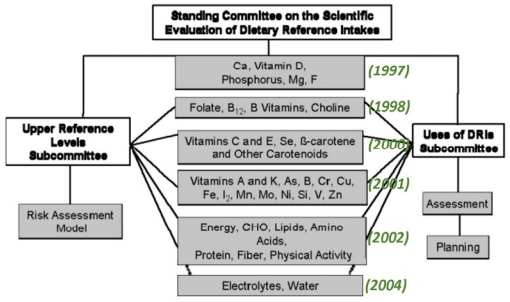
2020 영양소별 기준치 요약

영양소		영양소 섭취기준					
		평균 필요량	권장 섭취량	충분 섭취량	상한 섭취량	만성질환 위험 감소를 고려한 섭취량	
						에너지 적정비율	만성질환 위험감소를 위한 섭취량
에너지	에너지	○[1]					
	탄수화물	○	○			○	
	단백질	○	○				
	지방			○			
	필수지방산			○			
	콜레스테롤						
	수분			○			
지용성 비타민	비타민 A	○	○				
	비타민 D			○			
	비타민 E			○	○		
	비타민 K			○			
수용성 비타민	비타민 C	○	○		○		
	티아민	○	○				
	리보플라빈	○	○				
	니아신	○	○		○		
	비타민 B_6	○	○		○		
	엽산	○	○		○		
	비타민 B_{12}	○	○				
	판토텐산			○			
	비오틴			○			
무기질	염소			○			
	칼륨			○			
	마그네슘	○	○		○		
	철	○	○		○		
미량 무기질	아연	○	○		○		
	구리	○	○		○		
	불소			○	○		
	망간			○	○		
	요오드	○	○		○		
	셀레늄	○	○		○		
	몰리브덴	○	○		○		
	크롬			○			

- [평균필요량/권장섭취량] 탄수화물, 단백질, 아미노산, 비타민 A, C, 티아민, 리보플라빈, 니아신, B6, 엽산, B12, 칼슘, 인, 마그네슘, 철, 아연, 구리, 요오드, 셀레늄, 몰리브덴
- [충분섭취량] 식이섬유, 지방, 필수지방산, 수분, 비타민 D, E, K, 판토텐산, 비오틴, 나트륨, 염소, 칼륨, 불소, 망간, 크롬
- [상한섭취량] 비타민 E, C, 니아신, B6, 엽산, 칼슘, 인, 마그네슘, 철, 아연, 구리, 불소, 망간, 요오드, 셀레늄, 몰리브덴
- [만성질환위험감소섭취량] 나트륨

[미국] DRI 개념 최초 도입

[DRI 제정을 위한 위원회 구성]



미국 한림원 (National Academy of Sciences)

- 영양권장량 제정
- 1993년 Workshop 개최
  영양권장량의 개정방향에 대한 개념의 변화 확립
  캐나다와 공동으로 이를 실천하기 위한 영양섭취기준
  (Dietary Reference Intakes; DRIs) 설정 작업 시작
- 6차에 걸쳐 보고서 발표 (1997-2004)

【Components of the Dietary Reference Intakes, 1994–2004】

DRI component	Description
Estimated Average Requirement (EAR)	Reflects the estimated median requirement and is particularly appropriate for applications related to planning and assessing intakes for groups of persons.
Recommended Dietary Allowance (RDA)	Derived from the EAR and intended to cover the requirements for 97–98 percent of the population.
Tolerable Upper Intake Level (UL)	Highest average intake that is likely to pose no risk.
Adequate Intake (AI)	Used when an EAR/RDA cannot be developed; average intake level based on observed or experimental intakes.
Acceptable Macronutrient Distribution Range (AMDR)	An intake range for an energy source associated with reduced risk of chronic disease.
Estimated Energy Requirement (EER)	Average dietary energy intake predicted to maintain energy balance in a healthy adult of defined age, gender, weight, height and level of physical activity that is consistent with good health.

[미국] 나트륨/칼륨 영양소섭취기준 리뷰

Selection of sodium/potassium for review

2013-2014 DRI Nutrient Review Nomination and Prioritization Process Joint Decision on Priority Nutrient(s) by Federal DRI Committees

2014-2016 Expert Working Group to develop options for using chronic disease endpoints for setting DRIs

2016-2017 NASEM Committee for Guiding Principles for Basing DRIs on Chronic Disease Values

26 nominations

11 nutrients/nutrient groups evaluated

Prioritized nutrients
Omega-3 fatty acids
Sodium/Potassium
Magnesium
Vitamin E

2016-2017 AHRQ Systematic Review on **Sodium and Potassium**

2017-2019 NASEM Committee for DRI Review of **Sodium and Potassium**

AHRQ, Agency for Healthcare Research and Quality (미국 의료 연구 품질청)
NASEM, National Academies of Sciences, Engineering, and Medicine (미국국립과학공학의학원)

David Klurfeld (USDA ARS) & Amanda MacFarlane (Health Canada)

[미국] 만성질환 기반 영양소섭취기준 제정에 대한 원칙 마련

Evidence Accumulating that Certain Nutrients May Affect Risks of Some Chronic Diseases

Options for basing Dietary Reference Intakes (DRIs) on chronic disease endpoints: report from a joint US-/Canadian-sponsored working group[1–3]

Elizabeth A Yetley,[4] Amanda J MacFarlane,[5] Linda S Greene-Finestone,[5] Cutberto Garza,[6–8] Jamy D Ard,[9] Stephanie A Atkinson,[10] Dennis M Bier,[11] Alicia L Carriquiry,[12] William R Harlan,[13] Dale Hattis,[14] Janet C King,[15–17] Daniel Krewski,[18] Deborah L O'Connor,[19,20] Ross L Prentice,[21,22] Joseph V Rodricks,[23] and George A Wells[24]*

[4]Office of Dietary Supplements, NIH, Bethesda, MD; [5]Bureau of Nutritional Sciences, Health Canada, Ottawa, Ontario, Canada; [6]Boston College, Chestnut Hill, MA; [7]Department of Global Health, George Washington University Milken Institute School of Public Health, Washington, DC; [8]Department of International Health, Johns Hopkins University Bloomberg School of Public Health, Baltimore, MD; [9]Wake Forest School of Medicine, Wake Forest University, Winston-Salem, NC; [10]Department of Pediatrics, McMaster University, Hamilton, Ontario, Canada; [11]Children's Nutrition Research Center, Baylor College of Medicine, Houston, TX; [12]Department of Statistics, Iowa State University, Ames, IA; [13]Retired, Office of the Director, NIH, Bethesda, MD; [14]The George Perkins Marsh Institute, Clark University, Worcester, MA; [15]Children's Hospital Oakland Research Institute, Oakland, CA; [16]Department of Nutritional Sciences, University of California, Berkeley, Berkeley, CA; [17]Department of Nutrition, University of California, Davis, Davis, CA; [18]McLaughlin Centre for Population Health Risk Assessment, University of Ottawa, Ottawa, Ontario, Canada; [19]Department of Nutritional Sciences, University of Toronto; [20]The Hospital for Sick Children, Toronto, Ontario, Canada; [21]Fred Hutchinson Cancer Research Center; [22]School of Public Health, University of Washington, Seattle, WA; [23]Ramboll-Environ International Corporation, Arlington, VA; and [24]Department of Epidemiology and Community Medicine, University of Ottawa Heart Institute, Ottawa, Ontario, Canada

ABSTRACT

Dietary Reference Intakes (DRIs) are used in Canada and the United States in planning and assessing diets of apparently healthy individuals and population groups. The approaches used to establish DRIs on the basis of classical nutrient deficiencies and/or toxicities have worked well. However, it has proved to be more challenging to base DRI values on chronic planning and assessing diets of apparently healthy individuals and population groups. Past expert committees that developed these reference values took into consideration the deficiencies, inadequacies, and toxicities of nutrients and related food substances as well as relevant chronic disease outcomes. The increasing

Options for Basing DRIs on Chronic Disease

A Report from the Joint US/Canadian Sponsored Working Group

Yetley et al. *Am J Clin Nutr,* 2017

This publication was used as the basis for a study by NASEM

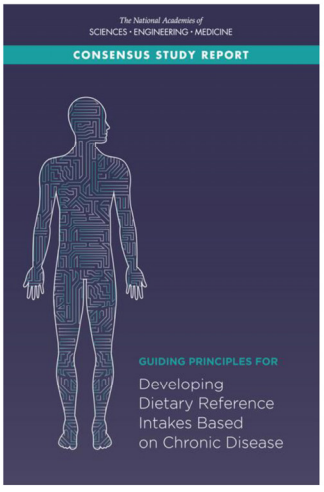
Guiding Principles for Developing Dietary Reference Intakes Based on Chronic Disease

Applies to both…

Nutrients

Other (Natural) Constituents of Food

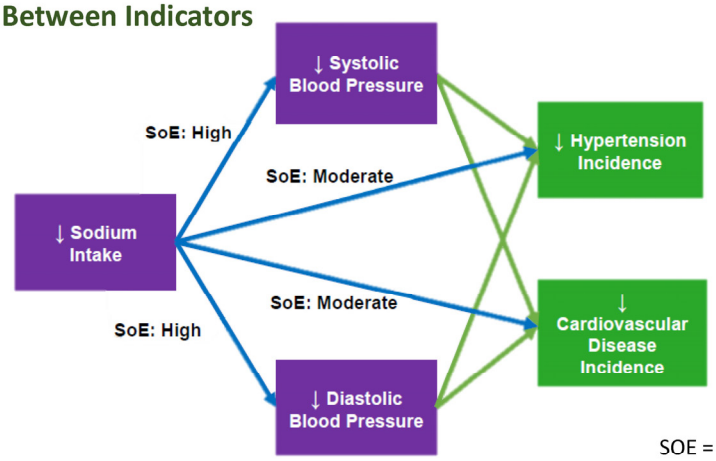
NOFS = Nutrients and Other Food Substances



Guidance for Future DRI Committees

[미국] 체계적 문헌고찰 결과-나트륨

Relationship Between Indicators

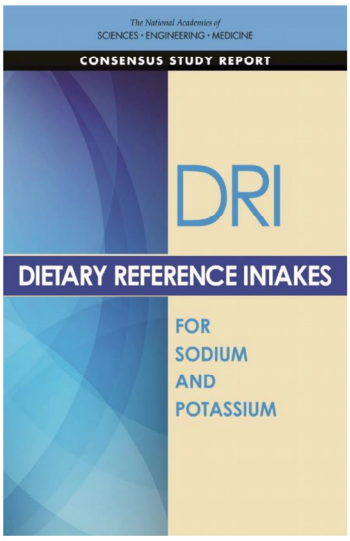


SOE = Strength of Evidence

- Continuous measures (changes in numerical values)
- Dichotomous Outcomes (changes in risk or incidence)
- Evidence from sodium randomized controlled trials
- Evidence for blood pressure as a surrogate marker from other studies

(2018 한국영양학회, Dr. Joseph V Rodricks 발표자료에서 발췌)

[미국] CDRR 제정-나트륨



March 2019

DIETARY REFERENCE INTAKES, BY AGE, SEX, AND LIFE-STAGE GROUP

	SODIUM			POTASSIUM		
Life-Stage Group	**AI (mg/d)**	**UL**	**CDRR**	**AI (mg/d)**	**UL**	**CDRR**
Infants						
0–6 months	110[a]	ND[b]	ND[c]	400	ND[b]	ND[c]
7–12 months	370	ND[b]	ND[c]	860[a]	ND[b]	ND[c]
Children						
1–3 years	800[a]	ND[b]	Reduce intakes if above 1,200 mg/day[d]	2,000[a]	ND[b]	ND[c]
4–8 years	1,000[a]	ND[b]	Reduce intakes if above 1,500 mg/day[d]	2,300[a]	ND[b]	ND[c]
Males						
9–13 years	1,200[a]	ND[b]	Reduce intakes if above 1,800 mg/day[d]	2,500[a]	ND[b]	ND[c]
14–18 years	1,500	ND[b]	Reduce intakes if above 2,300 mg/day[d]	3,000[a]	ND[b]	ND[c]
19–30 years	1,500	ND[b]	Reduce intakes if above 2,300 mg/day	3,400[a]	ND[b]	ND[c]
31–50 years	1,500	ND[b]	Reduce intakes if above 2,300 mg/day	3,400[a]	ND[b]	ND[c]
51–70 years	1,500[a]	ND[b]	Reduce intakes if above 2,300 mg/day	3,400[a]	ND[b]	ND[c]
>70 years	1,500[a]	ND[b]	Reduce intakes if above 2,300 mg/day	3,400[a]	ND[b]	ND[c]
Females						
9–13 years	1,200[a]	ND[b]	Reduce intakes if above 1,800 mg/day[d]	2,300[a]	ND[b]	ND[c]
14–18 years	1,500	ND[b]	Reduce intakes if above 2,300 mg/day[d]	2,300[a]	ND[b]	ND[c]
19–30 years	1,500	ND[b]	Reduce intakes if above 2,300 mg/day	2,600[a]	ND[b]	ND[c]
31–50 years	1,500	ND[b]	Reduce intakes if above 2,300 mg/day	2,600[a]	ND[b]	ND[c]
51–70 years	1,500[a]	ND[b]	Reduce intakes if above 2,300 mg/day	2,600[a]	ND[b]	ND[c]
>70 years	1,500[a]	ND[b]	Reduce intakes if above 2,300 mg/day	2,600[a]	ND[b]	ND[c]
Pregnancy						
14–18 years	1,500	ND[b]	Reduce intakes if above 2,300 mg/day[d]	2,600[a]	ND[b]	ND[c]
19–30 years	1,500	ND[b]	Reduce intakes if above 2,300 mg/day	2,900[a]	ND[b]	ND[c]
31–50 years	1,500	ND[b]	Reduce intakes if above 2,300 mg/day	2,900[a]	ND[b]	ND[c]
Lactation						
14–18 years	1,500	ND[b]	Reduce intakes if above 2,300 mg/day[d]	2,500[a]	ND[b]	ND[c]
19–30 years	1,500	ND[b]	Reduce intakes if above 2,300 mg/day	2,800[a]	ND[b]	ND[c]
31–50 years	1,500	ND[b]	Reduce intakes if above 2,300 mg/day	2,800[a]	ND[b]	ND[c]

NOTES: AI = Adequate Intake; CDRR = Chronic Disease Risk Reduction Intake; ND = not determined; UL =Tolerable Upper Intake Level.

[a]Updated DRI value, as compared to the *2005 DRI Report*.
[b]Not determined owing to lack of a toxicological indicator specific to excessive potassium intake.
[c]Not determined owing to insufficient strength of evidence for causality and intake–response.

[유럽] DRVs 제/개정 역사

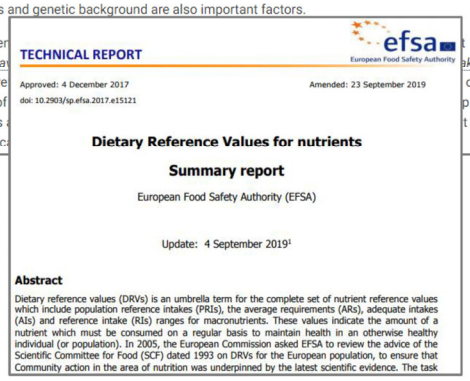
Dietary reference values

https://www.efsa.europa.eu/en/topics/topic/dietary-reference-values

A balanced diet is one that provides adequate amounts of various nutrients to maintain health and well-being. *Protein*, carbohydrate, fat, vitamins, minerals and water are all nutrients. Each *nutrient* has a particular function in the human body. The amount of each individual nutrient needed to maintain an individual's health is called the nutrient requirement. Nutrient requirements vary depending on age and gender. Level of physical activity, physiological status (such as pregnancy), dietary habits and genetic background are also important factors.

Contents
- Latest
- Milestones
- EFSA's role
- FAQ
- Published on this topic

EFSA (European Food Safety Authority)
- Work started in 2010 upon request from the European Commission
- 32 opinions published
- Cover protein, carbohydrates, fats, energy, 14 vitamins, 13 minerals


TECHNICAL REPORT

efsa European Food Safety Authority

Approved: 4 December 2017 Amended: 23 September 2019

doi: 10.2903/sp.efsa.2017.e15121

Dietary Reference Values for nutrients

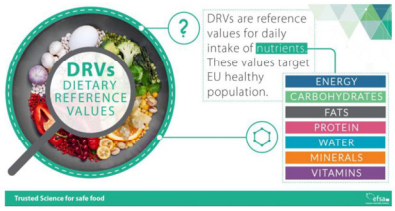
Summary report

European Food Safety Authority (EFSA)

Update: 4 September 2019[1]

Abstract

Dietary reference values (DRVs) is an umbrella term for the complete set of nutrient reference values which include population reference intakes (PRIs), the average requirements (ARs), adequate intakes (AIs) and reference intake (RIs) ranges for macronutrients. These values indicate the amount of a nutrient which must be consumed on a regular basis to maintain health in an otherwise healthy individual (or population). In 2005, the European Commission asked EFSA to review the advice of the Scientific Committee for Food (SCF) dated 1993 on DRVs for the European population, to ensure that Community action in the area of nutrition was underpinned by the latest scientific evidence. The task



- EFSA receives *ad hoc* requests from the European Commission or Member States to review ULs for nutrients and completed assessments include vitamin D in infants and **dietary sugars**.
- Re-evaluations of existing ULs for vitamin A, vitamin B6, vitamin D, vitamin E, beta-carotene, iron, manganese, folate/folic acid, and selenium are scheduled for completion in 2023 or thereafter.

[유럽] DRVs 지표

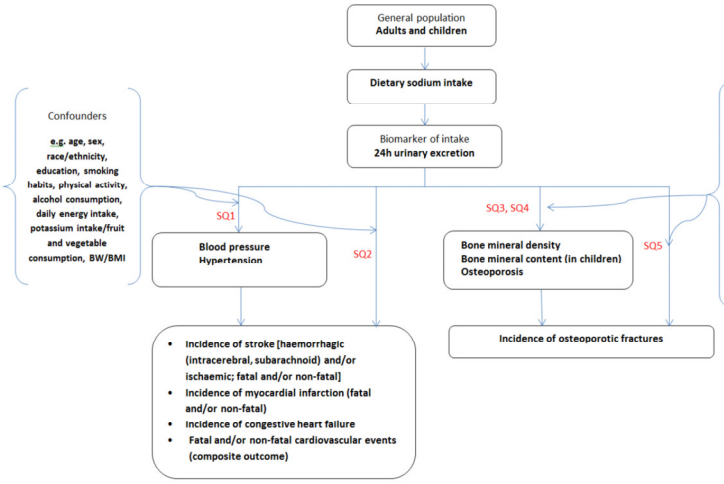
[Terminology used for dietary reference values used by different bodies]

	Population reference intake (PRI)	Average requirement (AR)	Lower threshold intake (LTI)	Adequate intake (AI)	Reference intake range (RI)	Tolerable upper intake level (UL)
UK (DoH, 1991)	Recommended intakes (RI)	Average requirement	Lower level of intake			
SCF, 1993	Population reference intake	Average requirement	Lower threshold intake (LTI)	Adequate intake	-	-
United States (IoM 1997, IoM 1998, IoM 2002)	Recommended dietary allowance (RDA)	Estimated average requirement (EAR)	-	Adequate Intake	Acceptable macronutrient distribution ranges (AMDR)	Tolerable upper intake level
Germany, Austria, Switzerland (D-A-CH, 2008)	Empfohlene Zufuhr	-	-	Schätzwerte Richtwerte	-	-
The Netherlands (GR, 2001)	Aanbevolen dagelijkse hoeveelheid (ADH)	Gemiddelde behoefte	-	Adequate inneming	-	Aanvaardbare bovengrens
France (AFSSA, 2001)	Apport nutritionel conseillé (ANC)	Besoin nutritionnel moyen	-	Apport nutritionel conseillé (ANC)	Apport nutritionel conseillé (ANC)	Limite de sécurité
Nordic countries (NNR, 2004)	Recommended intakes (RI)	Average requirement	Lower limit of intake (LI)	-		Upper intake level (UL)

- **Dietary Reference Values (DRVs):** the complete set of nutrient reference values such as the adequate intake level, the lower threshold and upper intake levels.
- **Population Reference Intakes (PRI):** the level of (nutrient) intake that is enough for virtually all healthy people in a group.
- **Average Requirement (AR):** the level of (nutrient) intake that is enough for half of the people in a healthy group, given a normal distribution of requirement.
- **Lower Threshold Intake (LTI):** the level of intake below which, on the basis of current knowledge, almost all individuals will be unlikely to maintain "metabolic integrity", according to the criterion chosen for each nutrient.
- **Adequate Intake (AI):** it is the value estimated when a PRI cannot be established because an average requirement cannot be determined.
- **Reference Intake ranges for macronutrients (RI):** the reference intake range for macronutrients, expressed as % of the daily energy intake, defined by a lower and an upper bound.
- **Tolerable Upper intake Level (UL):** the maximum level of total chronic daily intake of a nutrient (from all sources) judged to be unlikely to pose a risk of adverse health effects to humans.

[유럽] 만성질환 기반 나트륨섭취기준 제정에 대한 원칙 마련

- EFSA에서 만성질환(혈압, 심혈관계질환, 뼈 건강)과 관계된 나트륨 섭취기준을 설정하는데 사용하기 위한 프로토콜 마련



[Conceptual framework for the systematic reviews on sodium intake and selected health outcomes]

TECHNICAL REPORT

APPROVED: 14 December 2017

doi:10.2903/sp.efsa.2017.EN-1356

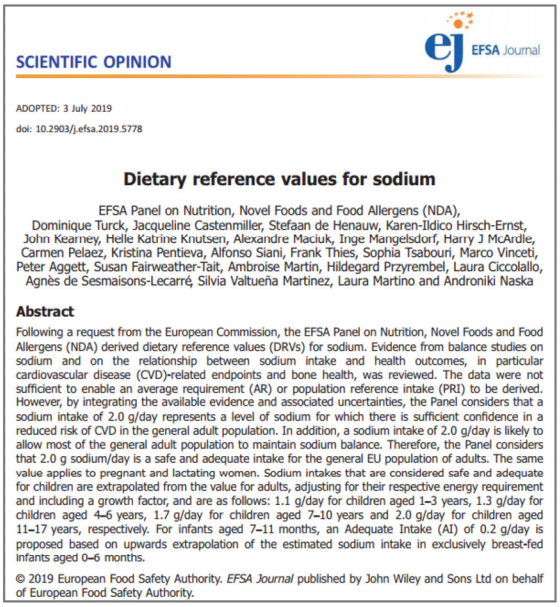
Outcome of a public consultation on the Scientific Opinion of the EFSA Panel on Dietetic Products, Nutrition and Allergies (NDA) on Dietary Reference Values for sodium (intermediate draft) and related protocol

European Food Safety Authority (EFSA)

Abstract

The European Food Safety Authority (EFSA) carried out a public consultation to receive input from the scientific community and all interested parties on an intermediate draft of its scientific opinion on Dietary Reference Values (DRVs) for sodium and related protocol, prepared by the EFSA Panel on Dietetic Products, Nutrition and Allergies (NDA Panel) and endorsed by the Panel for public consultation at its Plenary meeting on 19 September 2017. The written public consultation for these

[유럽] 만성질환 기반 섭취기준 제정-나트륨/염소



SCIENTIFIC OPINION

ADOPTED: 3 July 2019

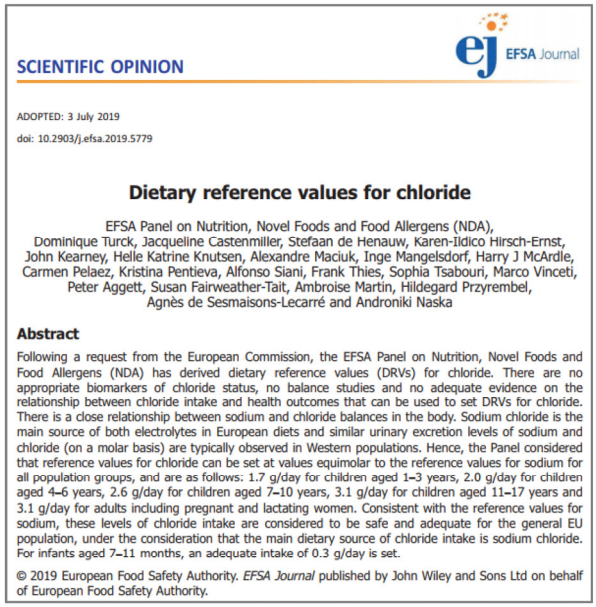
doi: 10.2903/j.efsa.2019.5778

Dietary reference values for sodium

EFSA Panel on Nutrition, Novel Foods and Food Allergens (NDA), Dominique Turck, Jacqueline Castenmiller, Stefaan de Henauw, Karen-Ildico Hirsch-Ernst, John Kearney, Helle Katrine Knutsen, Alexandre Maciuk, Inge Mangelsdorf, Harry J McArdle, Carmen Pelaez, Kristina Pentieva, Alfonso Siani, Frank Thies, Sophia Tsabouri, Marco Vinceti, Peter Aggett, Susan Fairweather-Tait, Ambroise Martin, Hildegard Przyrembel, Laura Ciccolallo, Agnès de Sesmaisons-Lecarré, Silvia Valtueña Martinez, Laura Martino and Androniki Naska

Abstract

Following a request from the European Commission, the EFSA Panel on Nutrition, Novel Foods and Food Allergens (NDA) derived dietary reference values (DRVs) for sodium. Evidence from balance studies on sodium and on the relationship between sodium intake and health outcomes, in particular cardiovascular disease (CVD)-related endpoints and bone health, was reviewed. The data were not sufficient to enable an average requirement (AR) or population reference intake (PRI) to be derived. However, by integrating the available evidence and associated uncertainties, the Panel considers that a sodium intake of 2.0 g/day represents a level of sodium for which there is sufficient confidence in a reduced risk of CVD in the general adult population. In addition, a sodium intake of 2.0 g/day is likely to allow most of the general adult population to maintain sodium balance. Therefore, the Panel considers that 2.0 g sodium/day is a safe and adequate intake for the general EU population of adults. The same value applies to pregnant and lactating women. Sodium intakes that are considered safe and adequate for children are extrapolated from the value for adults, adjusting for their respective energy requirement and including a growth factor, and are as follows: 1.1 g/day for children aged 1–3 years, 1.3 g/day for children aged 4–6 years, 1.7 g/day for children aged 7–10 years and 2.0 g/day for children aged 11–17 years, respectively. For infants aged 7–11 months, an Adequate Intake (AI) of 0.2 g/day is proposed based on upwards extrapolation of the estimated sodium intake in exclusively breast-fed infants aged 0–6 months.



SCIENTIFIC OPINION

ADOPTED: 3 July 2019

doi: 10.2903/j.efsa.2019.5779

Dietary reference values for chloride

EFSA Panel on Nutrition, Novel Foods and Food Allergens (NDA), Dominique Turck, Jacqueline Castenmiller, Stefaan de Henauw, Karen-Ildico Hirsch-Ernst, John Kearney, Helle Katrine Knutsen, Alexandre Maciuk, Inge Mangelsdorf, Harry J McArdle, Carmen Pelaez, Kristina Pentieva, Alfonso Siani, Frank Thies, Sophia Tsabouri, Marco Vinceti, Peter Aggett, Susan Fairweather-Tait, Ambroise Martin, Hildegard Przyrembel, Agnès de Sesmaisons-Lecarré and Androniki Naska

Abstract

Following a request from the European Commission, the EFSA Panel on Nutrition, Novel Foods and Food Allergens (NDA) has derived dietary reference values (DRVs) for chloride. There are no appropriate biomarkers of chloride status, no balance studies and no adequate evidence on the relationship between chloride intake and health outcomes that can be used to set DRVs for chloride. There is a close relationship between sodium and chloride balances in the body. Sodium chloride is the main source of both electrolytes in European diets and similar urinary excretion levels of sodium and chloride (on a molar basis) are typically observed in Western populations. Hence, the Panel considered that reference values for chloride can be set at values equimolar to the reference values for sodium for all population groups, and are as follows: 1.7 g/day for children aged 1–3 years, 2.0 g/day for children aged 4–6 years, 2.6 g/day for children aged 7–10 years, 3.1 g/day for children aged 11–17 years and 3.1 g/day for adults including pregnant and lactating women. Consistent with the reference values for sodium, these levels of chloride intake are considered to be safe and adequate for the general EU population, under the consideration that the main dietary source of chloride intake is sodium chloride. For infants aged 7–11 months, an adequate intake of 0.3 g/day is set.

[유럽] Safe and adequate intakes 제정-나트륨/염소

[Safe and adequate intakes for sodium and chloride, males and females]

Age group (years)	Chloride [a][b] (g/d)	Sodium [b] (g/d)
7–11 mo	0.3[c]	0.2[c]
1–3	1.7	1.1
4–6	2.0	1.3
7–10	2.6	1.7
11–17	3.1	2.0
≥ 18 years[d]	3.1	2.0

d, day; mo, months

Safe and adequate intakes for sodium: the reference values for sodium are called 'safe' because it takes account of the evidence describing the relationship between sodium intake and CVD risk in the general population and 'adequate' in line with the definition of an AI. The value provides guidance on a level of sodium intake compatible with good health that can inform population goals for sodium. However, the value has limited utility for assessing and planning the diet of individuals. At the individual level, if the usual intake of sodium exceeds this value, it could be associated with an increased risk of cardiovascular diseases, including concurring risk factors such as primary hypertension.
Safe and adequate intakes for chloride: The reference values for chloride are set at values equimolar to the reference values for sodium, under the consideration that the main dietary source of chloride intake is sodium chloride. The reference values for chloride are called 'safe' and 'adequate' consistent with the use made of these terms for sodium.

[일본] DRIs-J 제/개정 역사

- Since 1969, the Ministry of Health (Ministry of Health, Labour, and Welfare)has been in charge of developing the "Dietary Allowances for the Japanese".
- From 2005, it has been renamed as "Dietary Reference Intakes for the Japanese " (DRIs-J).
- Revisions have been conducted every five years since 1969.
- Process of developing the 2015 DRIs-J - How to use DRIs for chronic disease prevention/progress
- Process of developing the 2020 DRIs-J - Expanding the concept of "Dietary Goals" (DGs)


「日本人の食事摂取基準（2020年版）」策定検討会報告書

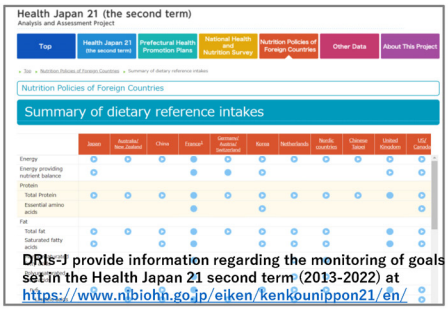
この度、「日本人の食事摂取基準（2020年版）」策定検討会報告書を取りまとめましたので、公表します。

※報告書に一部誤りがあったため、本ページ下部の正誤表の通り訂正いたしました。
現在掲載しているファイルは正誤表の内容を反映しています。（最終更新：令和2年1月21日）

＜「日本人の食事摂取基準（2020年版）」策定検討会報告書＞

○「日本人の食事摂取基準（2020年版）」策定検討会報告書（全文）
「日本人の食事摂取基準（2020年版）」策定検討会報告書（PDF:11,391 KB）

https://www.mhlw.go.jp/stf/newpage_08517.html



DRIs-J provide information regarding the monitoring of goals set in the Health Japan 21 second term (2013-2022) at https://www.nibiohn.go.jp/eiken/kenkounippon21/en/

[일본] DRIs-J 지표

☐ **Energy**

Values were developed to avoid excess or inadequate energy intake (BMI ranges, estimated energy requirement)

☐ **Nutrients**

Five indices were developed for three different objectives

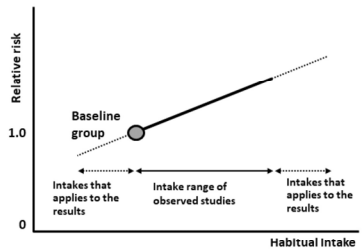
< Objective >	< Indices >
Avoiding inadequate intake	Estimated average requirement, Recommended dietary allowance * Adequate intake
Avoiding health risks due to excess intake	Tolerable upper intake level
Prevention of chronic disease	Dietary goal

DRIs-J, Dietary Reference Intakes for Japanese

[일본] Dietary Goal 개념

Tentative dietary goal for preventing life-style related diseases (DG)

- If the presence of sufficient scientific evidence for the setting of values, combined with the higher priority given to the relationship between dietary intake and life-style related diseases in the current Japanese population.
- When the values derived from sufficient scientific evidence deviated greatly from the current dietary intakes of the population, the DGs were modified.
- **Hypertension, dyslipidemia, diabetes, chronic kidney disease, (frailty)**

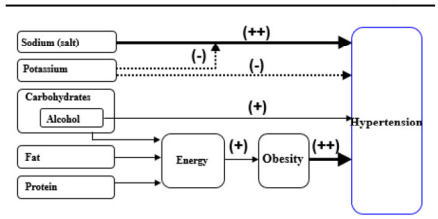


Schematic figure for understanding DGs

The relationship between nutrient intake and chronic disease is continuous, with no clear threshold.

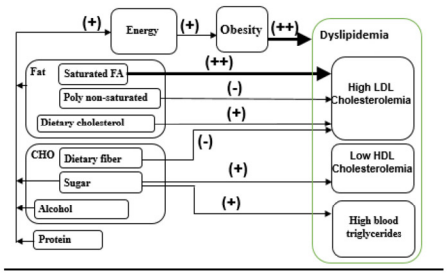
[일본] 체계적 문헌고찰 결과

Relationship between nutrient intakes and hypertension

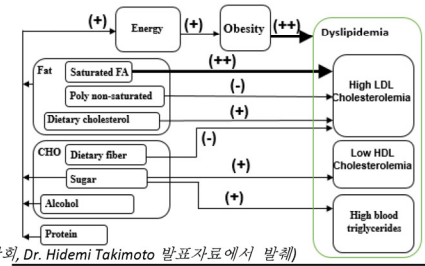


Thick arrows show strong relationship.

Relationship between nutrient intakes and dyslipidemia

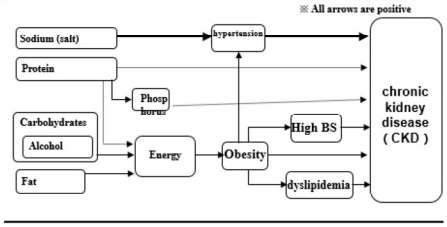


Relationship between nutrient intakes and dyslipidemia



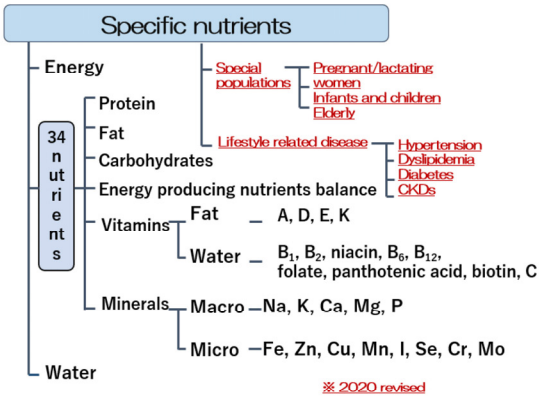
(2018 한국영양학회, Dr. Hidemi Takimoto 발표자료에서 발췌)

Relationship between nutrient intakes and chronic kidney disease



Compared to hypertension, dyslipidemia, and diabetes, there were less studies that examined the relationship between nutrient intake and chronic kidney disease. The results were also inconsistent.

[일본] 2020 DRIs-J 주요 개정 사항



- In addition to the "prevention of life-style diseases" , "prevention of malnutrition and/ or frailty in the elderly" was also included as the objective of the DRIs.
- However, frailty included in the DRIs-J was defined as a state between healthy and nursing care requirement.

Nutrients			(EAR)	(RDA)	(AI)	(UL)	(DG)
Protein			○	○	—	—	○[1]
Fat		Fat	—	—	—	—	○[1]
		Saturated fat	—	—	—	—	○
		n-6 FA	—	—	○	—	—
		n-3 FA	—	—	○	—	—
Carbohydrates		Carbohydrate	—	—	—	—	○[1]
		Dietary fiber	—	—	—	—	○
Energy Providing Nutrients' Balance			—	—	—	—	○
Vitamins	Fat soluble	Vitamin A	○	○	—	○	—
		vitamin D	—	—	○	○	—
		vitamin E	—	—	○	○	—
		vitamin K	—	—	○	—	—
	Water soluble	vitamin B_1	○	○	—	—	—
		vitamin B_2	○	○	—	—	—
		niacin	○	○	—	○	—
		vitamin B_6	○	○	—	○	—
		vitamin B_{12}	○	○	—	—	—
		Folate	○	○	—	○[2]	—
		Pantotenic acid	—	—	○	—	—
		biotin	—	—	○	—	—
		vitamin C	○	○	—	—	—
Minerals	Macro	Sodium	○	—	—	—	○
		Potassium	—	—	○	—	○
		Calcium	○	○	—	○	—
		Magnesium	○	○	—	○[2]	—
		Sulfar	—	—	○	○	—
	Trace	Iron	○	○	—	○	—
		Zinc	○	○	—	○	—
		Copper	○	○	—	○	—
		manganese	—	—	○	○	—
		Iodine	○	○	—	○	—
		selenium	○	○	—	○	—
		Chromium	—	—	○	—	—
		Molibdenium	○	○	—	○	—

[1] As % energy intake
[2] Including dietary supplements

[일본] DG 제정-나트륨/칼륨

Sodium（mg/d, （ ）is salt equivalent [g/d]）[1]

Sex	Men			Women		
Age	EAR	AI	DG	EAR	AI	DG
0～5（months）	–	100 (0.3)	–	–	100 (0.3)	–
6～11（months）	–	600 (1.5)	–	–	600 (1.5)	–
1～2（yrs）	–	–	(3.0 -)	–	–	(3.0 -)
3～5（yrs）	–	–	(3.5 -)	–	–	(3.5 -)
6～7（yrs）	–	–	(4.5 -)	–	–	(4.5 -)
8～9（yrs）	–	–	(5.0 -)	–	–	(5.0 -)
10～11（yrs）	–	–	(6.0 -)	–	–	(6.0 -)
12～14（yrs）	–	–	(7.0 -)	–	–	(6.5 -)
15～17（yrs）	–	–	(7.5 -)	–	–	(6.5 -)
18～29（yrs）	600 (1.5)	–	(7.5 -)	600 (1.5)	–	(6.5 -)
30～49（yrs）	600 (1.5)	–	(7.5 -)	600 (1.5)	–	(6.5 -)
50～64（yrs）	600 (1.5)	–	(7.5 -)	600 (1.5)	–	(6.5 -)
65～74（yrs）	600 (1.5)	–	(7.5 -)	600 (1.5)	–	(6.5 -)
75+（yrs）	600 (1.5)	–	(7.5 -)	600 (1.5)	–	(6.5 -)
Pregnant				600 (1.5)	–	(6.5 -)
Lactating				600 (1.5)	–	(6.5 -)

1 For the prevention of progression of hypertension and chronic kidney disease, salt intake should be less than 6.0 g/d for both men and women.

식염(7.5g), Na(3000mg)　　식염(6.5g), Na(2600mg)

Potassium（mg/d）

Sex	Men		Women	
Age	AI	DG	AI	DG
0～5（months）	400	–	400	–
6～11（months）	700	–	700	–
1～2（yrs）	900	–	900	–
3～5（yrs）	1,000	1,400+	1,000	1,400+
6～7（yrs）	1,300	1,800+	1,200	1,800+
8～9（yrs）	1,500	2,000+	1,500	2,000+
10～11（yrs）	1,800	2,200+	1,800	2,000+
12～14（yrs）	2,300	2,400+	1,900	2,400+
15～17（yrs）	2,700	3,000+	2,000	2,600+
18～29（yrs）	2,500	3,000+	2,000	2,600+
30～49（yrs）	2,500	3,000+	2,000	2,600+
50～64（yrs）	2,500	3,000+	2,000	2,600+
65～74（yrs）	2,500	3,000+	2,000	2,600+
75+（yrs）	2,500	3,000+	2,000	2,600+
Pregnant			2,000	2,600+
Lactating			2,200	2,600+

Dietary goal values were newly set for 3-5yrs.
Further studies are needed to investigate the Na/K ratio and health outcomes among the Japanese.

[제외국 동향] 열량 및 다량영양소, 비영양성분 (최근 개정 년도)

열량 및 다량영양소

	에너지	탄수화물	총당류	첨가당	지방	n-6계 지방산	n-3계 지방산	리놀레산	α-리놀렌산	EPA+DHA	포화지방산	트랜스지방산	콜레스테롤	단백질	식이섬유	수분
한국	2020	2020	2020	2020	2020			2020	2020	2020	2020	2020	2020	2020	2020	2020
미국	2005	2005		2005	2005	2005	2005	2005	2005					2005	2005	2005
호주/뉴질랜드	2005						2005	2005	2005	2005				2005	2005	2005
유럽	2013	2010			2010			2010	2010	2010				2012	2010	2010
일본	2020	2020			2020	2020	2020				2020			2020	2020	
중국	2013	2013		2013	2013	2013	2013	2013	2013	2013	2013	2013		2013		

비영양성분

	Phytosterol	Phytosterol ester	Lycopene	Lutein	Proantho-cyanidine	Soy isoflavone	Anthocyanin	Glucosamine	Glucosamine sulfate or hydrochloride	Curcumin
한국										
미국										
호주/뉴질랜드										
유럽										
일본										
중국*	2013	2013		2013	2013	2013	2013	2013	2013	2013

* Dietary level for preventing specific chronic disease SPL(specific proposed level) predicted to maintain health in a healthy adult.

[제외국 동향] – 비타민, 무기질 (최근 개정 년도)

	비타민 A	비타민 D	비타민 E	비타민 K	비타민 C	티아민	리보플라빈	니아신	비타민 B6	엽산	비타민 B12	판토텐산	비오틴	콜린	코발아민
한국	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020		
미국	2001	2011	2000	2001	2000	1998	1998	1998	1998	1998	1998	1998	1998	1998	
호주/뉴질랜드	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	
유럽	2015	2016	2015	2017	2013	2016	2017	2014	2016	2014	2015	2014	2014	2016	2017
일본	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020		
중국	2013	2013	2013	2013	2013	2013	2013	2013	2013	2013	2013	2013	2013	2013	

	칼슘	인	나트륨	염소	칼륨	마그네슘	철	아연	구리	불소	망간	요오드	셀레늄	몰리브덴	크롬	붕소	니켈	바나디움	황
한국	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020				
미국	2011	1997	2019	2005	2019	1997	2001	2001	2001	1997	2001	2001	2000	2001	2001	2001	2001	2001	2005
호주/뉴질랜드	2005	2005	2017	2005	2005	2005	2005	2005	2005	2017	2005	2005	2005	2005	2005				
유럽	2015	2015	2019	2019	2016	2015	2017	2015	2015	2013	2013	2014	2014	2013	2014				
일본	2020	2020	2020		2020	2020	2020	2020	2020		2020	2020	2020	2020	2020				
중국	2013	2013	2013	2013	2013	2013	2013	2013	2013	2013	2013	2013	2013	2013	2013				

[제외국 기준 비교] – 에너지적정비율

(% Energy)

	탄수화물	총당류	첨가당	단백질	지질					
					지방	콜레스테롤	트랜스 지방산	포화 지방산	n-6 PUFA	n-3 PUFA
한국[a]	55-65	<10-20	<10	7-20	15-30	-	<1	<8	-	-
미국[b]	45-65	-	<25	10-35	20-35	ALAP	ALAP	ALAP	5-10	0.6-1.2
호주/뉴질랜드[c]	-	-	-	-	-		-	-	-	-
유럽[d]	45-60[1)]	-	-	-	20-35[1)]		ALAP	ALAP	-	-
일본[e]	50-65[2)]	-	-	13-20[2)]	20-30[2)]		-	≤7[2)]	11g[2)]	2.4g[2)]
중국[f]	55-65	-	<10	-	20-30		-	<10	2.5-9.0	0.5-2.0

a한국, 19-29y 성인남자 기준; b미국, 19-30y 성인남자 기준; c호주/뉴질랜드, 19-30y 성인남자 기준; d유럽, 18y이상 성인남자 기준; e일본, 18-29y 성인남자 기준; f중국, 18-49y 성인남자 기준
PUFA, polyunsaturated fatty acid; ALAP, as low as possible

1) RI, reference intake range
2) DG, dietary goal

[제외국 기준 비교] –에너지와 다량영양소

	에너지 (kcal)	탄수화물 (g)	식이섬유 (g)	단백질 (g)	지방 (g)	리놀레산 (g)	α-리놀렌산 (g)	DHA+EPA (mg)
한국[a]	2600(EER)	100(EAR), 130(RNI)	30(AI)	50(EAR), 65(RNI)		13(AI)	1.6(AI)	210(AI)
미국[b]	신장, 신체활동량에 따라 BMI별 가가 설정 (EER)	100(EAR), 130(RDA)	38(AI)	0.66g/kg(EAR), 56(RDA)		17(AI)	1.6(AI)	
호주/뉴질랜드[c]	기초대사량,신체활동량에 따라 BMI별 각각 설정 (EER)		30(AI)	52(EAR; 0.68g/kg) 64(RDI; 0.84g/kg)		13(AI)	1.3(AI)	160(AI) (DHA+EPA+DPA)
유럽[d]	기초대사량,신체활동량에 따라 설정(AR)		25(AI)	0.66g/kg(AR), 0.83g/kg(PRI)		4(AI)	0.5(AI)	250(AI)
일본[e]	저활동적(2300)/ 활동적(2650)/ 매우활동적(3050)에 따라 각각 설정(EER)		≥21(DG)	50(EAR), 65(AI)				
중국[f]	저활동적(2250)/ 활동적(2600)/ 매우활동적(3000)에 따라 각각 설정(EER)	120(EAR)	25-30(AI)	60(EAR), 65(RNI)		4.0%E(AI)	0.60%E(AI)	250(AI)

a한국, 19-29y 성인남자 기준; b미국, 19-30y 성인남자 기준; c호주/뉴질랜드, 19-30y 성인남자 기준; d유럽, 18-59y 성인남자 기준; e일본, 18y이상 성인남자 기준; f중국, 18-49y 성인남자 기준

EAR, estimated average requirement; RNI, recommended nutrient intake, AI, adequate intake, RDA, recommended dietary allowance; RDI, recommended dietary intake;
AR, average requirement; PRI, Population Reference Intake; DG, dietary goal

[제외국 기준 비교] – 비타민

	비타민 A (μg RAE)	비타민 D (μg)	비타민 E (mg α-TE)	비타민 K (μg)	비타민 C (mg)	티아민 (mg)	리보플라빈(mg)	니아신 (mg NE)	비타민 B6(mg)	엽산 (μg DFE)	비타민 B12(μg)	판토텐산 (mg)	비오틴 (μg)	콜린 (mg)	코발아민 (μg)
한국[a]	570(EAR), 800(RNI), 3000(UL)	10(AI), 100(UL)	12(AI), 540(UL)	75(AI)	75(EAR), 100(RNI) 2000(UL)	1.0(EAR), 1.2(RNI)	1.3(EAR), 1.5(RNI)	12(EAR), 16(RNI), 35(UL)*, 1000(UL)**	1.3(EAR), 1.5(RNI), 100(UL)	320(EAR), 400(RNI), 1000(UL)	2.0(EAR), 2.4(RNI)	5(AI)	30(AI)		
미국[b]	625(EAR), 900(RDA), 3000(UL)	10(EAR), 15(RDA), 100(UL)	12(EAR), 15(RDA), 1000(UL)	120(AI)	75(EAR), 90(RDA), 2000(UL)	1.0(EAR), 1.2(RDA)	1.1(EAR), 1.3(RDA)	12(EAR), 16(RDA), 35(UL)	1.1(EAR) 1.3(RDA) 100(UL)	320(EAR), 400(RDA), 1000(UL)	2.0(EAR), 2.4(RDA)	5(AI)	30(AI)	550(AI), 3500(UL)	
호주/뉴질랜드[c]	625(EAR)†, 900(RDI)†, 3000(UL)†	5(AI), 80(UL)	10(AI), 300(UL)	70(AI)	30(EAR), 45(RDI), 1000(UL)	1.0(EAR), 1.2(RDI)	1.1(EAR), 1.3(RDI)	12(EAR), 16(RDI), 35(UL)	1.1(EAR), 1.3(RDI), 50(UL)	320(EAR), 400(RDI), 1000(UL)	2.0(EAR), 2.4(RDI)	6(AI)	30(AI)	550(AI), 3500(UL)	
유럽[d]	570(EAR)†, 750(PRI)†, 3000(UL)†	15(PRI), 100(UL)	13(AI), 300(UL)	70(AI)	90(AR), 110(PRI)	0.072mg /MJ(AR), 0.1(PRI)	1.3(AR), 1.6(PRI)	1.3(AI), 1.6(PRI), 10(UL)*, 900(UL)**	1.5(AR), 1.7(PRI), 25(UL)	250(AR), 330(PRI), 1000(UL)		5(AI)	40(AI)	400(AI)	4.0(AI)
일본[e]	600(EAR), 850(RDA), 2700(UL)	8.5(AI), 100(UL)	6(AI), 850(UL)	150(AI)	85(EAR), 100(RDA	1.2(EAR), 1.4(RDA)	1.3(EAR), 1.6(RDA)	13(EAR), 15(RDA), 80(UL)*, 300(UL)**	1.1(EAR), 1.4(RDA) 55(UL)	200(EAR), 240(RDA), 900(UL)	2.0(EAR), 2.4(RDA)	5(AI)	50(AI)		
중국[f]	560(EAR), 800(RNI), 3000(UL)	8(EAR), 10(RNI), 50(UL)	14(AI), 700(UL)	80(AI)	85(EAR), 100(RNI) 200(PI) 2000(UL)	1.2(EAR), 1.4(RNI)	1.2(EAR), 1.4(RNI)	12(EAR), 15(RNI), 35(UL)*, 310(UL)**	1.2(EAR), 1.4(RNI), 60(UL)	320(EAR), 400(RNI), 1000(UL)	2.0(EAR), 2.4(RNI)	5.0(AI)	40(AI)	500(AI), 3000(UL)	

a한국, 19-29y 성인남자 기준; b미국, 19-30y 성인남자 기준; c호주/뉴질랜드, 19-30y 성인남자 기준; d유럽, 18y이상 성인남자 기준; e일본, 18-29y 성인남자 기준; f중국, 18-49y 성인남자 기준

EAR, estimated average requirement; RNI, recommended nutrient intake, AI, adequate intake, RDA, recommended dietary allowance; RDI, recommended dietary intake; AR, average requirement; PRI, Population Reference Intake; DG, dietary goal; PI, proposed intake; UL, tolerable upper intake level; RAE, retinol activity equivalent; TE, Tocopherol Equivalent; NE, niacin equivalent; DFE, dietary folate equivalent
† μg RE; *nicotinic acid; **nicotinamide

[제외국 기준 비교] – 무기질

	칼슘 (mg)	인 (mg)	나트륨 (mg)	염소 (mg)	칼륨 (mg)	마그네슘 (mg)	철 (mg)	아연 (mg)	구리 (μg)	불소 (mg)	망간 (mg)	요오드 (μg)	셀레늄 (μg)	몰리브덴 (μg)	크롬 (μg)
한국[a]	650(EAR), 800(RNI), 2500(UL)	580(EAR), 700(RNI), 3500(UL)	1500(AI), 2300(CDRR)	2300(AI)	3500(AI)	300(EAR), 360(RNI), 350(UL)	8(EAR), 10(RNI), 45(UL)	9(EAR), 10(RNI), 35(UL)	650(EAR), 850(RNI), 10000(UL)	3.4(AI), 10(UL)	4.0(AI), 11(UL)	95(EAR), 150(RNI), 2400(UL)	50(EAR), 60(RNI), 400(UL)	25(EAR), 30(RNI), 600(UL)	30(AI)
미국[b]	800(EAR), 1000(RDA), 2500(UL)	580(EAR), 700(RDA), 4000(UL)	1500(AI), 2300(UL) 2300(CDRR)	2300(AI), 3600(UL)	4700(AI)	330(EAR), 400(RDA), 350(UL)	6(EAR), 8(RDA), 45(UL)	9.4(EAR), 11(RDA), 40(UL)	700(EAR), 900(RDA), 10000(UL)	4(AI), 10(UL)	2.3(AI), 11(UL)	95(EAR), 150(RDA), 1100(UL)	45(EAR), 55(RDA), 400(UL)	34(EAR), 45(RDA), 2000(UL)	35(AI)
호주/뉴질랜드[c]	840(EAR), 1000(RDI), 2500(UL)	580(EAR), 1000(RDI), 4000(UL)	460-920 (AI), 2000(SDT)		3800(AI)	330(EAR), 400(RDI), 350(UL)	6(EAR, 8(RDI), 45(UL)	12(EAR), 14(RDI), 40(UL)	1700(AI), 10000(UL)	4(AI), 10(UL)	5.5(AI)	100(EAR), 150(RDI), 1100(UL)	60(EAR), 70(RDI), 400(UL)	34(EAR), 45(RDI), 2000(UL)	35(AI)
유럽[d]	860(AR), 1000(PRI), 2500(UL)	550(AI)	2000(SAI)†	3100(SAI)†	3500(AI)	350(AI) 250(UL)*	6(AR), 11(PRI)	7.5(AR), 9.4(PRI), 25(UL)	1600(AI), 5000(UL)	3.4(AI), 7(UL)	3.0(AI)	150(AI), 600(UL)	70(AI), 300(UL)	65(AI), 600(UL)	
일본[e]	650(EAR), 800(RDA), 2500(UL)	1000(AI), 3000(UL)	600, 식염 1.5g(EAR), <7.5g(DG)		2500(AI), ≥3000(DG)	280(EAR), 340(RDA)	6.5(EAR), 7.5(RDA), 50(UL)	9(EAR), 11(RDA), 40(UL)	700(EAR), 900(RDA), 7000(UL)		4(AI), 11(UL)	95(EAR), 130(RDA), 3000(UL)	25(EAR), 30(RDA), 450(UL)	20(EAR), 30(RDA), 600(UL)	10(AI), 500(UL)
중국[f]	650(EAR), 800(RNI), 2000(UL)	600(EAR), 720(RNI), 3500(UL)	1500(AI) 2000(PI)	2300(AI)	2000(AI) 3600(PI)	280(EAR), 330(RNI)	9(EAR), 12(RNI), 42(UL)	10.4(EAR), 12.5(RNI), 40(UL)	600(EAR), 800(RNI), 8000(UL)	1.5(AI), 3.5(UL)	4.5(AI), 11(UL)	85(EAR), 120(RNI), 600(UL)	50(EAR), 60(RNI), 400(UL)	85(EAR), 100(RNI), 900(UL)	30(AI)

a한국, 19-29y 성인남자 기준; b미국, 19-30y 성인남자 기준; c호주/뉴질랜드, 19-30y 성인남자 기준; d유럽, 18y이상 성인남자 기준; e일본, 18-29y 성인남자 기준; f중국, 18-49y 성인남자 기준

EAR, estimated average requirement; RNI, recommended nutrient intake, AI, adequate intake, RDA, recommended dietary allowance; RDI, recommended dietary intake; AR, average requirement; PRI, Population Reference Intake; DG, dietary goal; PI, proposed intake; UL, tolerable upper intake level; SDT, suggested dietary target

*SAI, safe and adequate intake

요약 및 결론

- 영양학의 패러다임은 "**영양결핍성 질환 예방**"에서 "**충분하고 안전한 (adequate and safe) 영양**"으로 전환되었으며, "**영양권장량**"의 개념도 발전하여 새로운 영양소 섭취기준으로 다수의 기준치가 조합된 형태인 "**영양소 섭취기준 (Dietary Reference Intake)**"으로 변경됨.
- 미국을 시작으로 우리나라를 비롯한 호주/뉴질랜드, 유럽, 일본 등에서도 이와 같은 영양소 섭취 기준치를 도입함(국가별 기준치 용어에서의 약간의 차이는 존재).
- 2017년 미국 한림원은 만성질환에 기반한 영양소 섭취기준 개발에 대한 지침을 발간, 본격적으로 영양소 섭취기준의 패러다임을 "충분하고 안전한 영양"에서 "**만성질환 발생 위험 감소**"로 전환하는 검토를 시작함.
- 이 지침에 따른 예시로 **미국**은 2019년 나트륨과 칼륨에 대한 만성질환위험감소섭취량**(CDRR)**을 발표하였고, **우리나라**도 2020 한국인영양소섭취기준 개정 시 나트륨에 대해 이 기준치를 도입함.
- 용어는 다르나 **호주/뉴질랜드(STD), 유럽(SAI), 일본(DG) 등도 만성질환에 기반한 나트륨 섭취기준을 발표**함.
- 각국은 자국 국민들의 신체적 조건과 식생활에 적합하도록 영양소 섭취기준에 대한 제개정작업을 하고 있으며 이는 과학적 근거를 기반으로 하는 바, 보다 **충분한 근거가 마련될 수 있도록** 섭취량 조사 연구를 비롯하여 **다양한** 임상연구와 코호트 **연구가 필요**함.