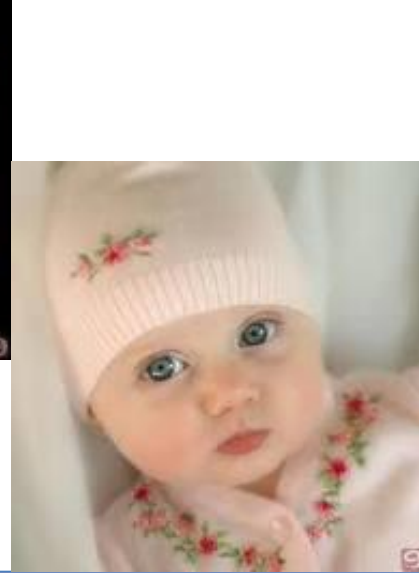


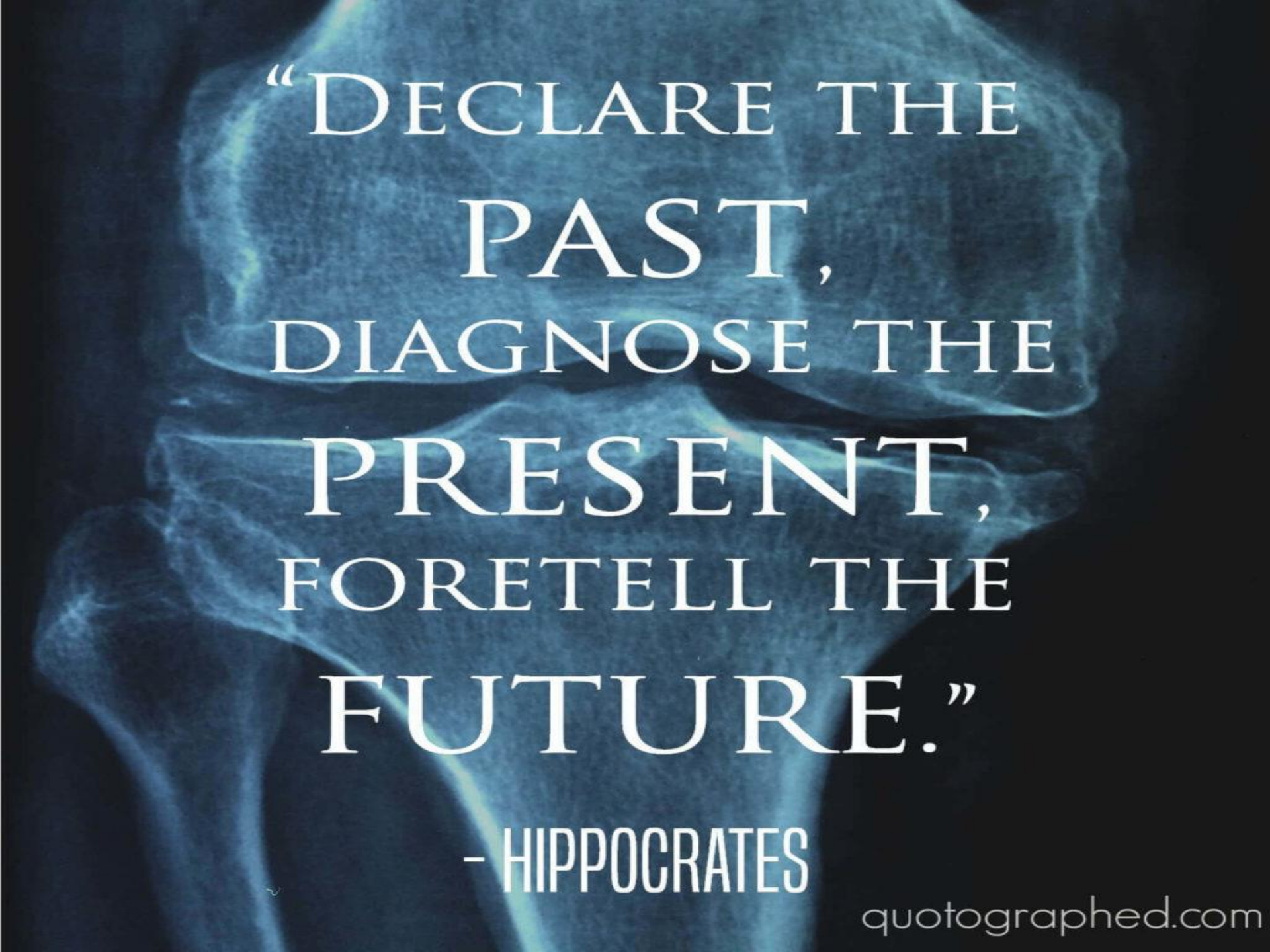


MİKROBİYOTA-2018

Prof. Dr. Ener Çağrı DİNLEYİCİ

Eskişehir Osmangazi Üniversitesi Tıp Fakültesi
Çocuk Sağlığı ve Hastalıkları Anabilim Dalı

KLİMİK-2018
ANTALYA



“DECLARE THE
PAST,
DIAGNOSE THE
PRESENT,
FORETELL THE
FUTURE.”

-HIPPOCRATES

quotographed.com



Health at a Glance 2017

OECD INDICATORS



✓ Better than OECD average

● Close to OECD average

✗ Worse than OECD average

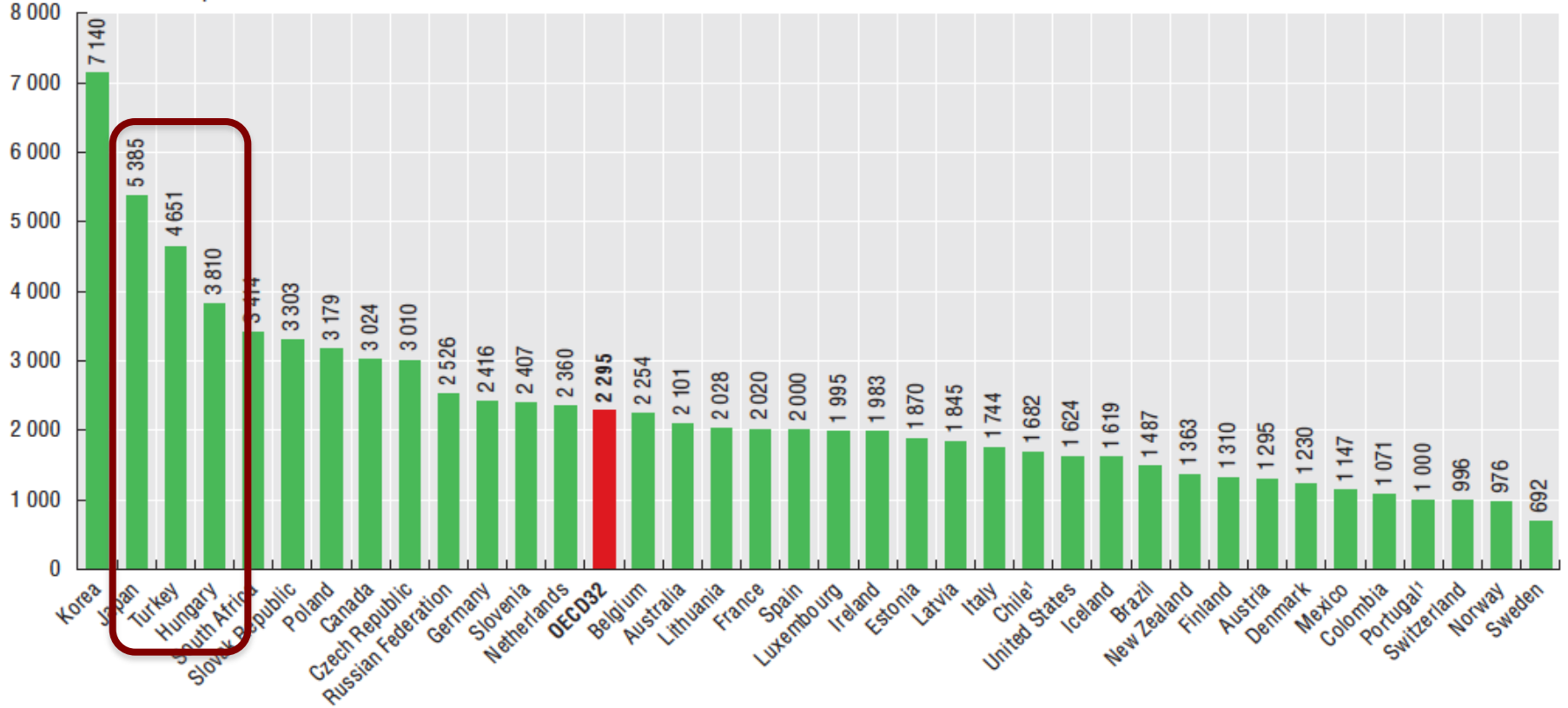
– Missing data

	SMOKING	ALCOHOL	OBESITY	AIR POLLUTION
	% of population who smokes daily	Liters per capita consumed in a year	% of population with BMI > 30	Mean annual exposure to PM2.5, mg/m3
OECD	18.4	9.0	19.4	15.1
Turkey	27.3 ✗	1.4 ✓	22.3 ●	36.4 ✗

	ASTHMA AND COPD HOSPITAL ADMISSIONS	ANTIBIOTICS PRESCRIBED	ACUTE MYOCARDIAL INFARCTION MORTALITY*	COLON CANCER SURVIVAL	OBSTETRIC TRAUMA (INSTRUMENT) **
	Age-sex standardised rate per 100 000 population	Defined daily dose per 1 000 population	Age-sex standardised rate per 100 000 population	Age-standardised survival rate in %	Crude rates per 100 vaginal deliveries
OECD	236	20.6	7.5	62.8	5.7
Turkey	414 ✗	17.3 ●	8.6 ●	54.6 ✗	–

9.2. Estimated number of consultations per doctor, 2015 (or nearest year)

Annual consultations per doctor



YILLIK DOKTOR BAŞVURUSU

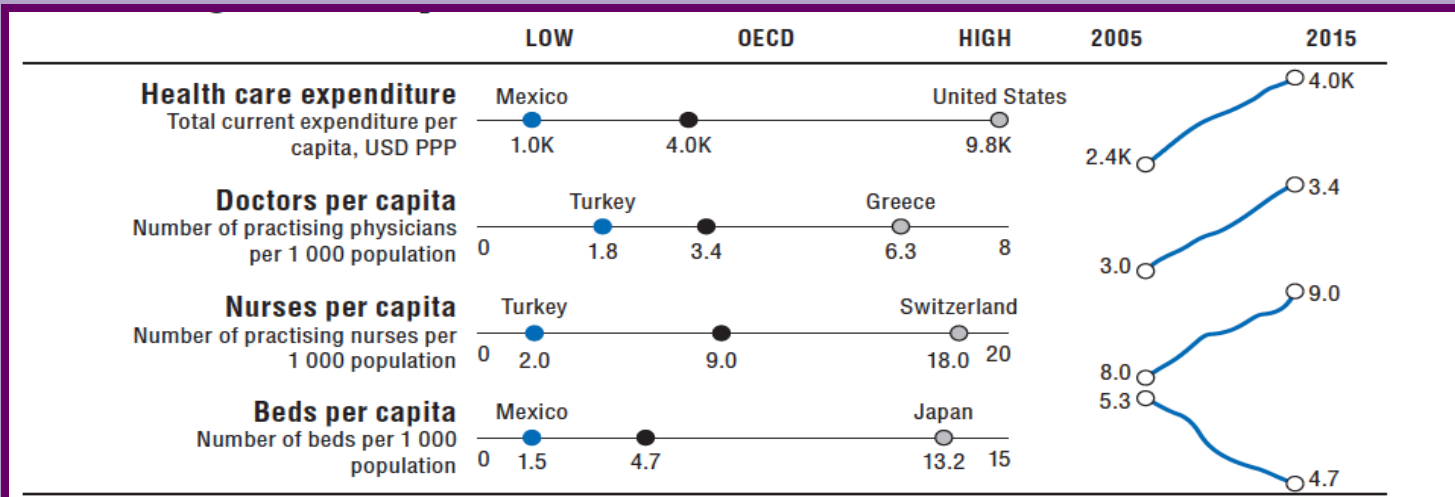
⬆ Above OECD average

⬆ Close to OECD average

⬆ Below OECD average

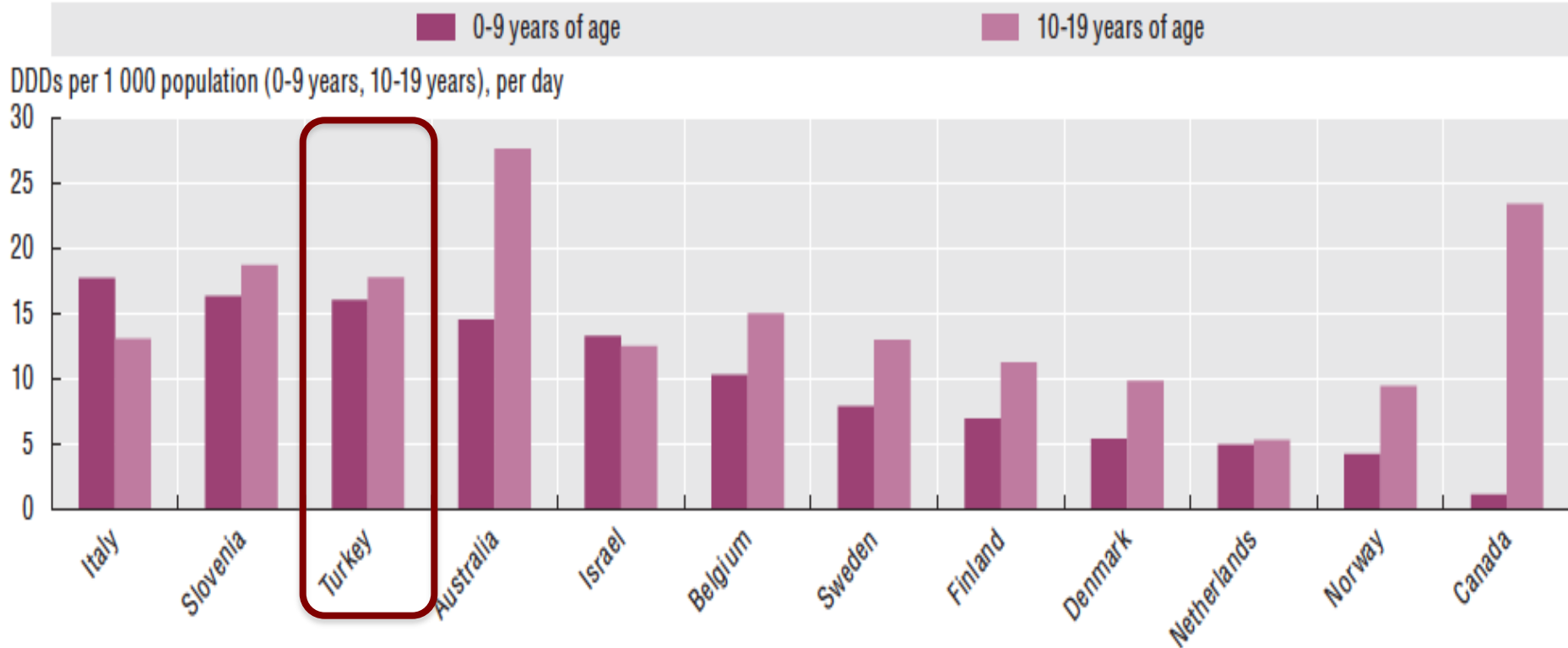
– Missing data

	HEALTH CARE EXPENDITURE *	DOCTORS PER CAPITA	NURSES PER CAPITA	BEDS PER CAPITA **
	Total spending per capita, USD PPP	Number of practising physicians per 1 000 population	Number of practising nurses per 1 000 population	Number of beds per 1 000 population
OECD	4 003	3.4	9.0	4.7
Turkey	1 088 ⬆	1.8 ⬆	2.0 ⬆	2.7 ⬆



KİŞİ BAŞI DÜŞEN DOKTOR BAŞVURUSU

6.5. Volume of antibiotics prescribed in young people, 2015 (or nearest year)

**ANTİBİYOTİK KULLANIMI**

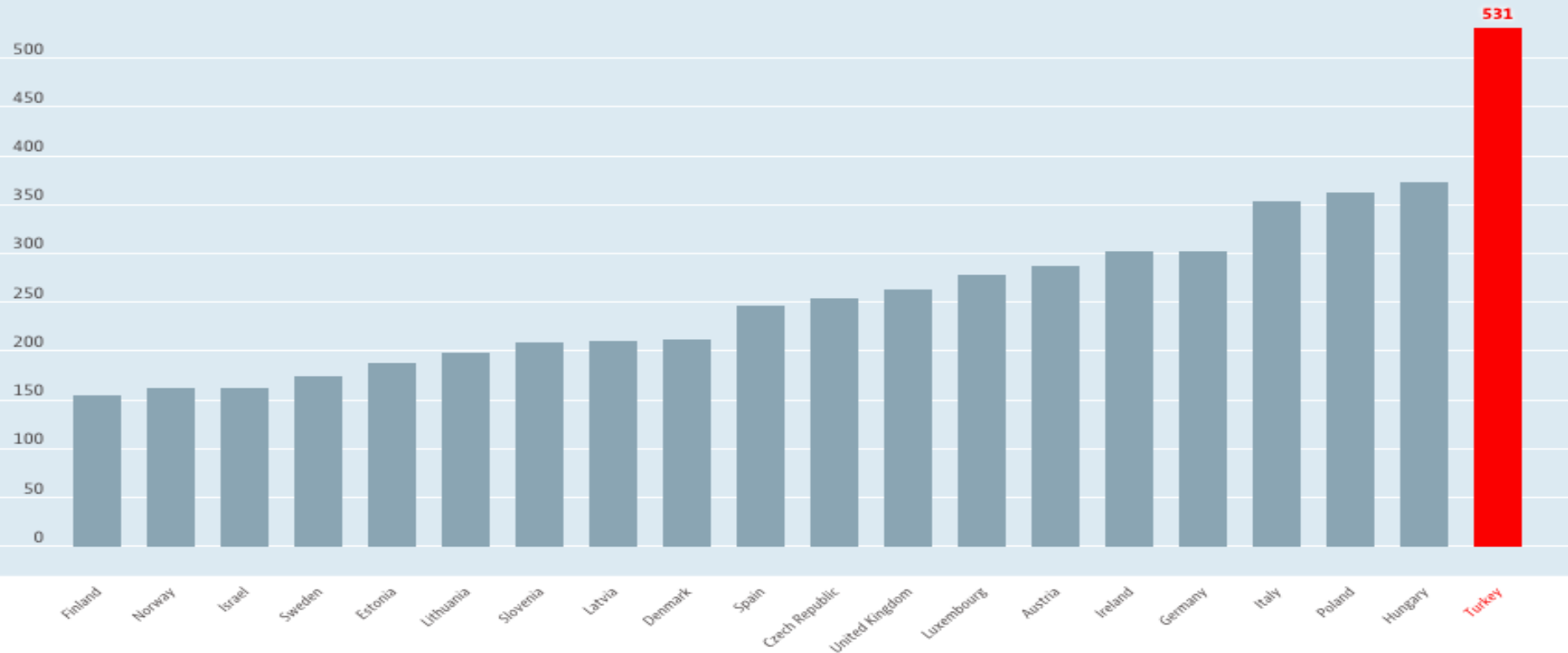
Caesarean sections Total, Per 1 000 live births, 2015

Source: Health care utilisation

Show:

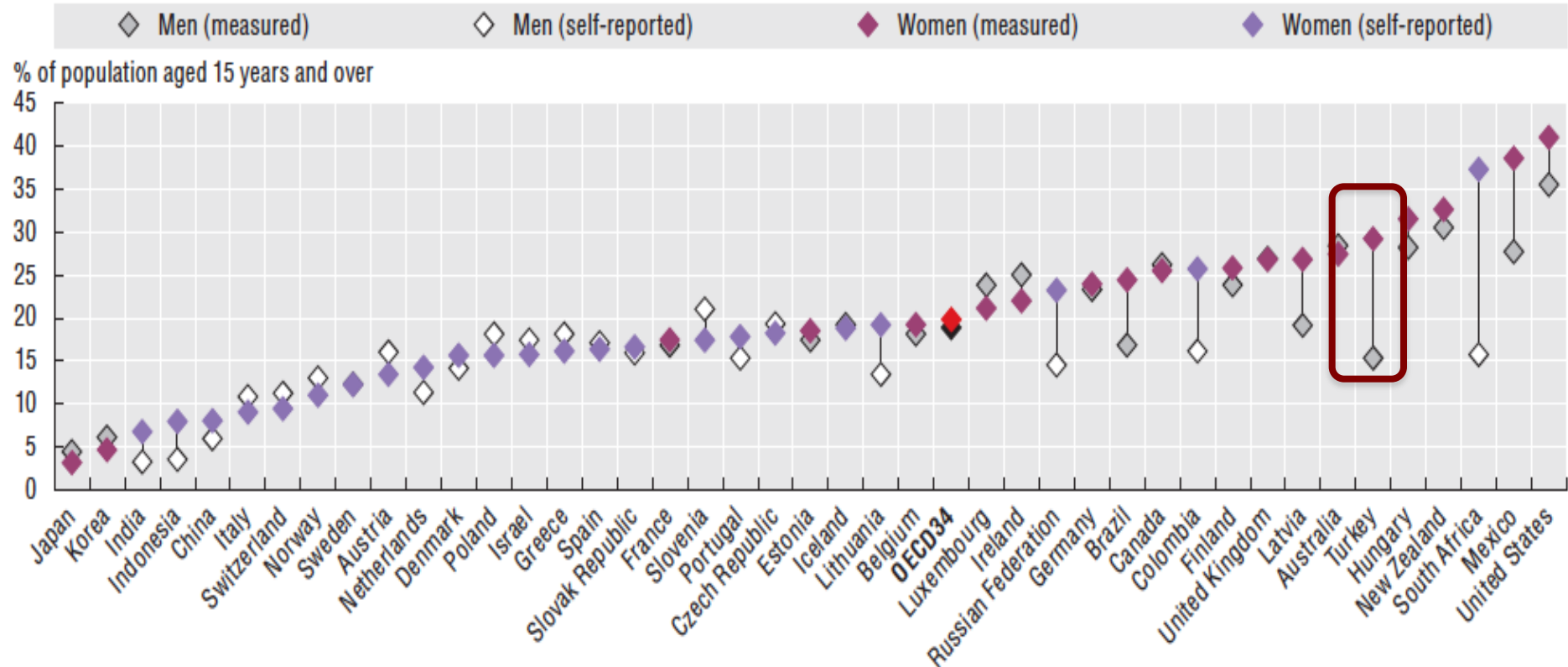
Chart

Table

 fullscreen share download My pinboard

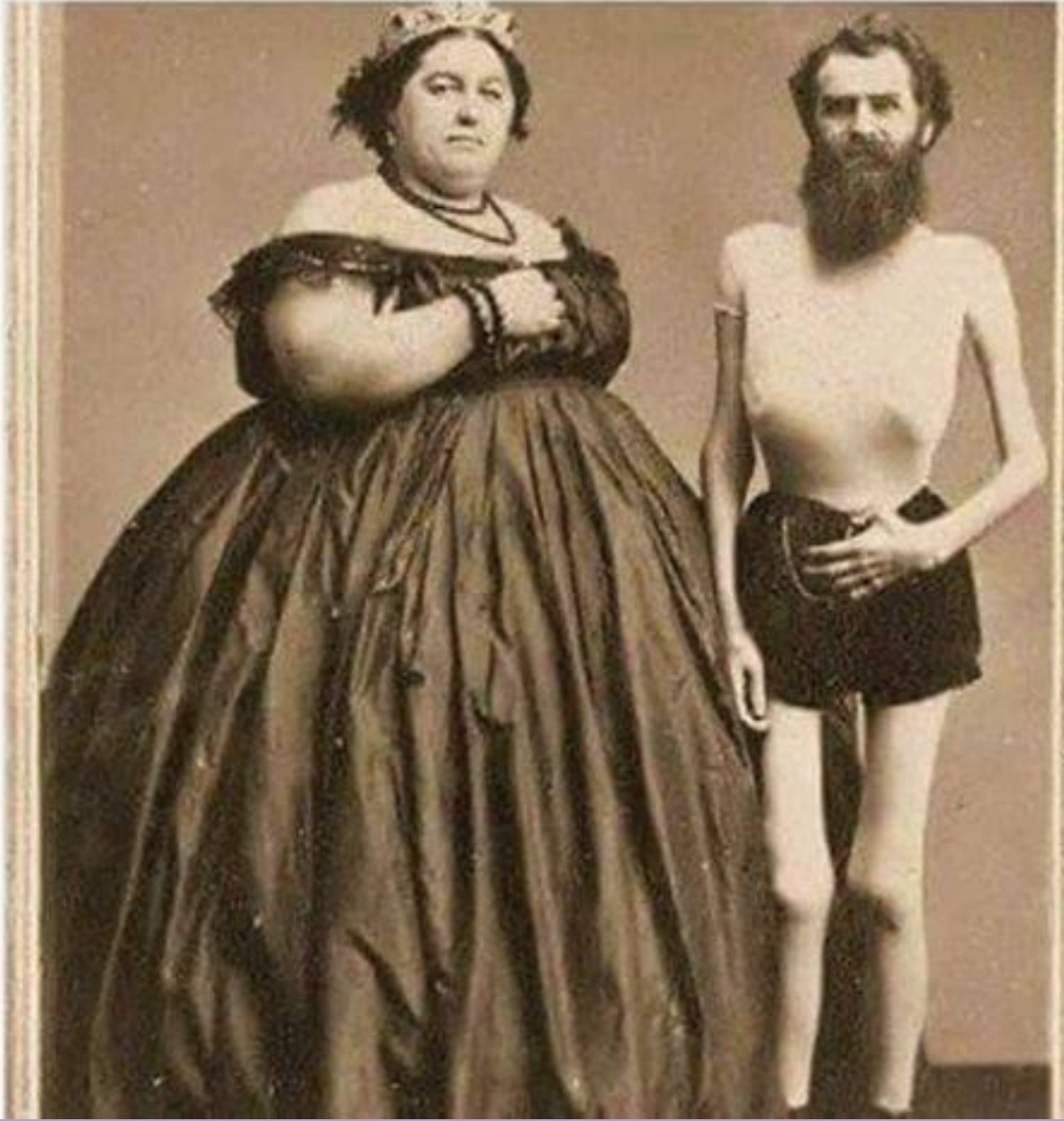
DOĞUM ŞEKLİ

4.15. Obesity among adults by gender, 2015 (or nearest year)



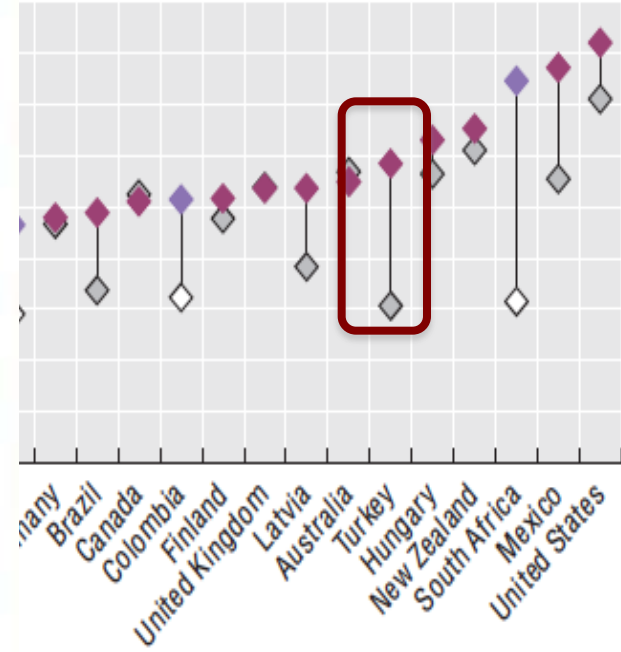
OBESİTE

Yememiş yedirmiş ,giymemiş giydirmiş
dedikleri bu olsa gerek 😊😊

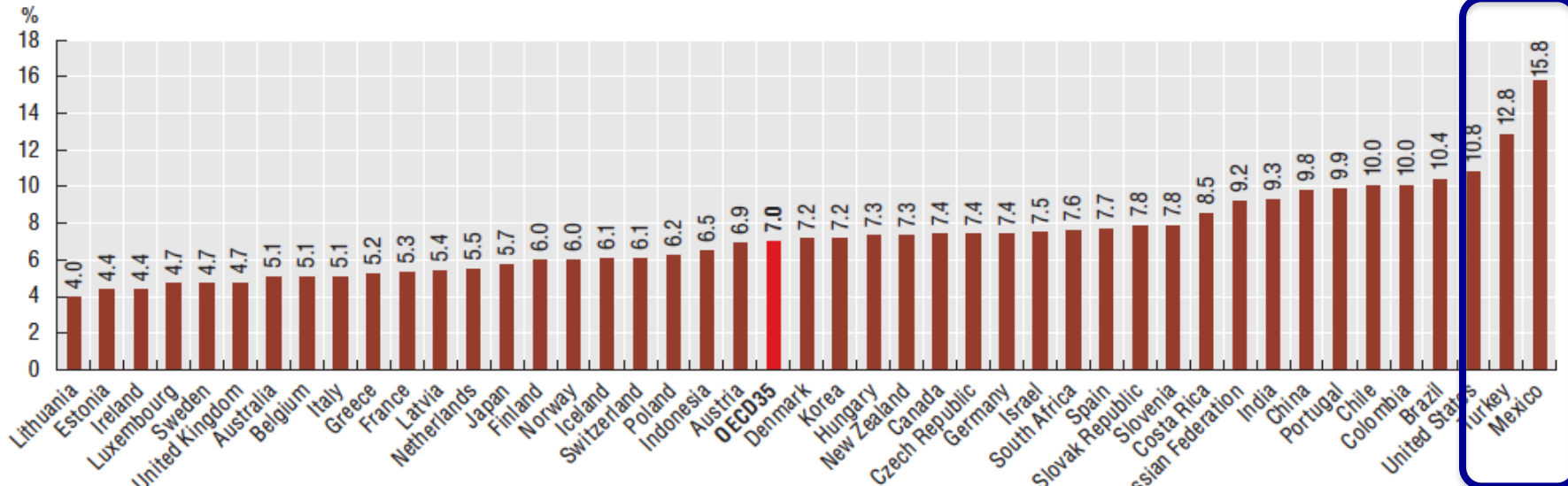


nearest year)

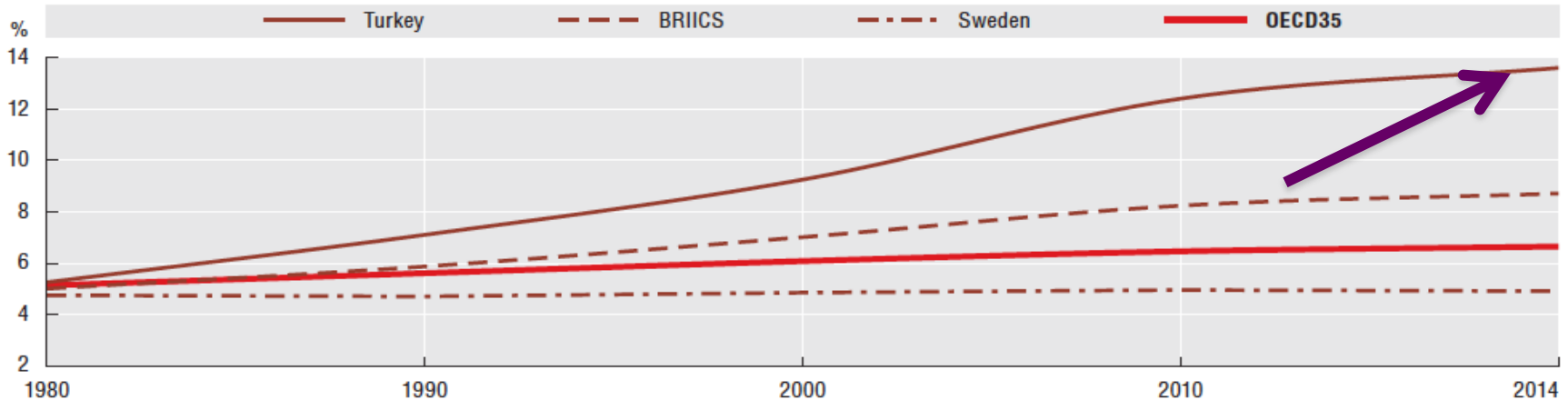
d) Women (self-reported)



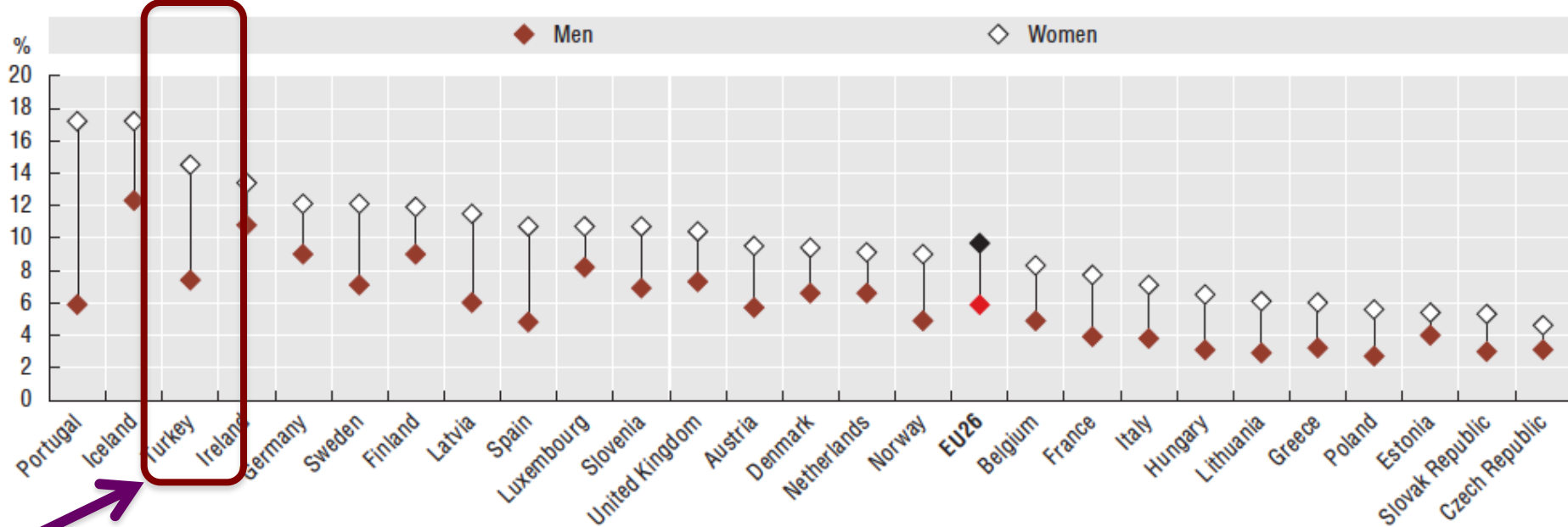
DİYABET



3.24. Trends in share of adults with diabetes, 1980-2014



3.17. Prevalence of chronic depression, 2014

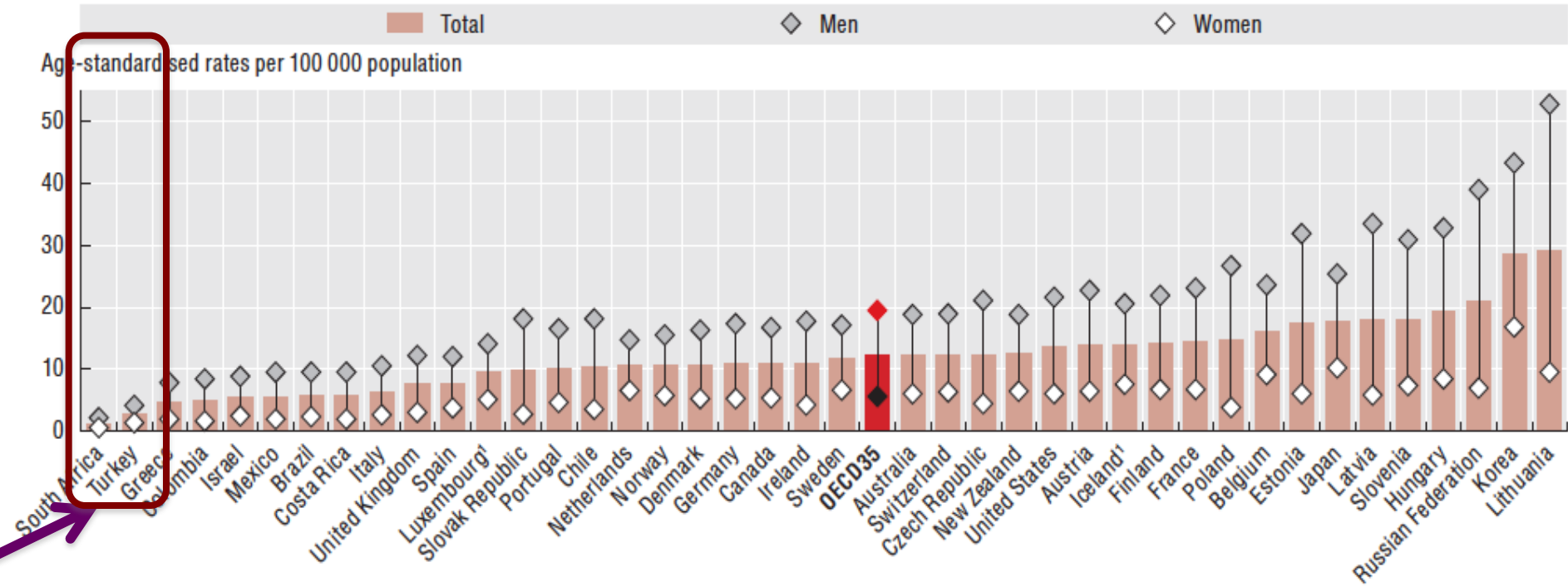


Note: Self-reported prevalence of depression in the past 12 months.

Source: Eurostat Database, 2017.

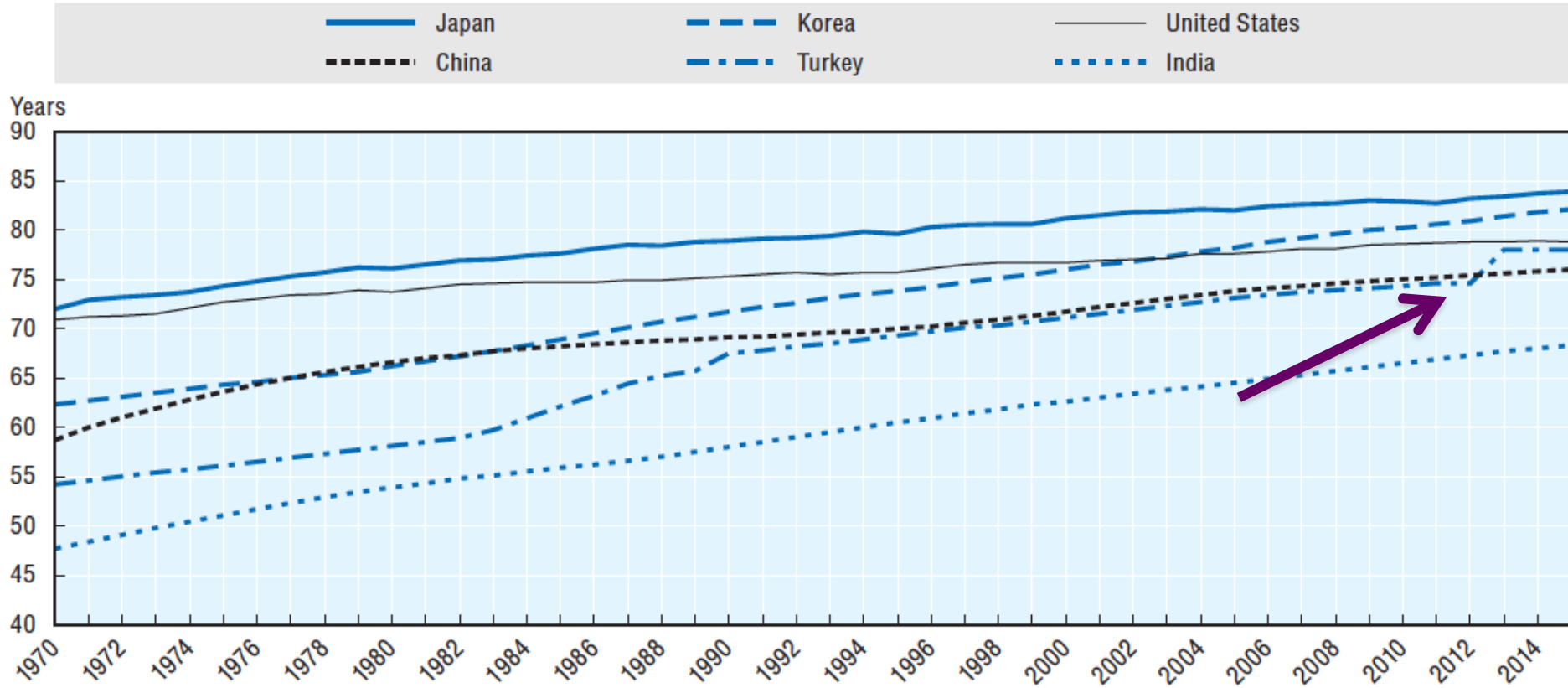
KRONİK DEPRESYON

3.15. Suicide, 2015 (or nearest year)



SÜSİD-ÖZKİYIM

Figure 2.2. Trends in life expectancy at birth, selected countries, 1970-2015



Source: OECD Health Statistics 2017.

YAŞAM BEKLENTİSİ



INFLAMMATORY BOWEL DISEASE

Gut 2006;55:205-211

Reduced diversity of faecal microbiota in Crohn's disease revealed by a metagenomic approach

C Manichanh, I Rigottier-Gois, E Bonnaud, K Gloux, E Pelletier, L Frangeul, R Nalin, C Jarrin, P Chardon, P Marteau, J Roca, J Dore



Mind-altering microorganisms: the impact of the gut microbiota on brain and behaviour

John F. Cryan^{1,2} and Timothy G. Dinan^{1,2}

NATURE REVIEWS VOLUME 13 | OCTOBER 2012 | 701

Gut microbiota and cardiovascular disease connectivity

Michael R Howitt & Wendy S Garrett

VOLUME 18 | NUMBER 8 | AUGUST 2012 NATURE MEDICINE

Does the Human Gut Microbiota Contribute to the Etiology of Autism Spectrum Disorders?

Peter Louis

Dig Dis Sci (2012) 57:1987-1989

Mucosal Immunology of Food Allergy

M. Cecilia Berin^{1,2} and Hugh A. Sampson^{1,2}

Current Biology 23, R389-R400, May 6, 2013

Microbes and mucosal immune responses in asthma

Trevor T Hansel, Sebastian L Johnston*, Peter J Openshaw*

www.thelancet.com Vol 381 March 9, 2013

MICROBIAL ECOLOGY

Human gut microbes associated with obesity

Ruth E. Ley, Peter J. Turnbaugh, Samuel Klein, Jeffrey I. Gordon

Washington University School of Medicine,
St Louis, Missouri 63108, USA
e-mail: jgordon@wustl.edu

NATURE | Vol 444 | 21/28 December 2006

OPEN ACCESS Freely available online

February 2010 | Volume 5 | Issue 2 | e9055

PLoS ONE

Gut Microbiota in Human Adults with Type 2 Diabetes Differs from Non-Diabetic Adults

Nadja Larsen^{1,2}, Finn K. Vogensen¹, Frans W. J. van den Berg¹, Dennis Sandris Nielsen¹, Anne Sofie Andreasen², Bente K. Pedersen², Waleed Abu Al-Soud³, Søren J. Sørensen², Lars H. Hansen², Mogens Jakobsen¹

¹Department of Food Science, University of Copenhagen, Frederiksberg, Denmark; ²Department of Infectious Diseases and CMRC, University Hospital Rigshospitalet, Copenhagen, Denmark; ³Department of Biology, University of Copenhagen, Copenhagen, Denmark

Evidence for Contributions of Gut Microbiota to Colorectal Carcinogenesis

B. S. Tyler Culppepper • Volker Mai

Curr Nutr Rep (2013) 2:10-18

The Role of the Microbiome in Rheumatic Diseases

Nigel Yeoh • Jeremy P. Burton • Praema Suppiyah •

Gregor Reid • Simon Stebbings

Curr Rheumatol Rep (2013) 15:314

Clinical Nutrition Experimental 6 (2016) 39–58

Losing weight for a better health: Role for the gut microbiota

Maria Carlota Dao^{a,b,c}, Amandine Everard^d, Karine Clément^{a,b,c,e},
Patrice D. Cani^{d,*}

^a Institute of Cardiometa-bolism and Nutrition, ICAN, Assistance Publique Hôpitaux de Paris, Pitié-Salpêtrière Hospital, Paris, France
^b INSERM, UMR S 1136, Nutrition Team, Paris, France
^c Sorbonne Universités, UPMC University Paris 06, UMR S 1166 I, Nutrition Team, Paris, France
^d Université catholique de Louvain, Leuven Drug Research Institute, WELBIO (Wolven Excellence in Life sciences and Biotechnology),
Metabolism and Nutrition Research Group, Av. E. Mouricq, 73 Box B173.11, B-1200 Brussels, Belgium

Clinical & Translational Immunology (2016) 5, e82;
Dietary metabolites and the gut microbiota:
an alternative approach to control inflammatory
and **autoimmune diseases**

James L Richards, Yu Anne Yap, Keiran H McLeod, Charles R Mackay and Eliana Mariño

Lipid and Cardiovascular Research, 2016,02(1):09–16
<http://www.enochpublishing.com/LCB>



The Role of Intestinal Microflora and Its Possible Mechanisms in Hypertension

Jun-Feng Sun¹, Wen-Hong Xu², Guo-Jun Wang^{1,*}

The NEW ENGLAND JOURNAL of MEDICINE

A Gut Feeling about Thrombosis

Herbert Tilg, M.D.

N ENGL J MED 374:25 NEJM.ORG JUNE 23, 2016

Oncotarget, Vol. 7, No. 15

Distinctly altered gut microbiota in the progression of liver disease

Guoxiang Xie^{1,2}, Xiaoning Wang^{3,4}, Ping Liu^{3,4}, Runmin Wei², Wenlian Chen²,
Cynthia Rajani², Brenda Y. Hernandez², Rosanna Alegado⁵, Bing Dong⁶, Defa Li⁶,
and Wei Jia^{1,2,3}

March 29, 2016

Dig Dis Sci (2016) 61:1461–1472

Gut Microbiota and Celiac Disease

Giovanni Marasco¹ · Anna Rita Di Biase² · Ramona Schiumerini¹ ·
Leonardo Henry Eusebi¹ · Lorenzo Iughetti² · Federico Ravaoli¹ ·
Eleonora Scialoi¹ · Antonio Colecchia¹ · Davide Festi¹

The gut microbiome and liver cancer: mechanisms and clinical translation

Le-Xing Yu¹ and Robert F. Schwabe^{1,2}

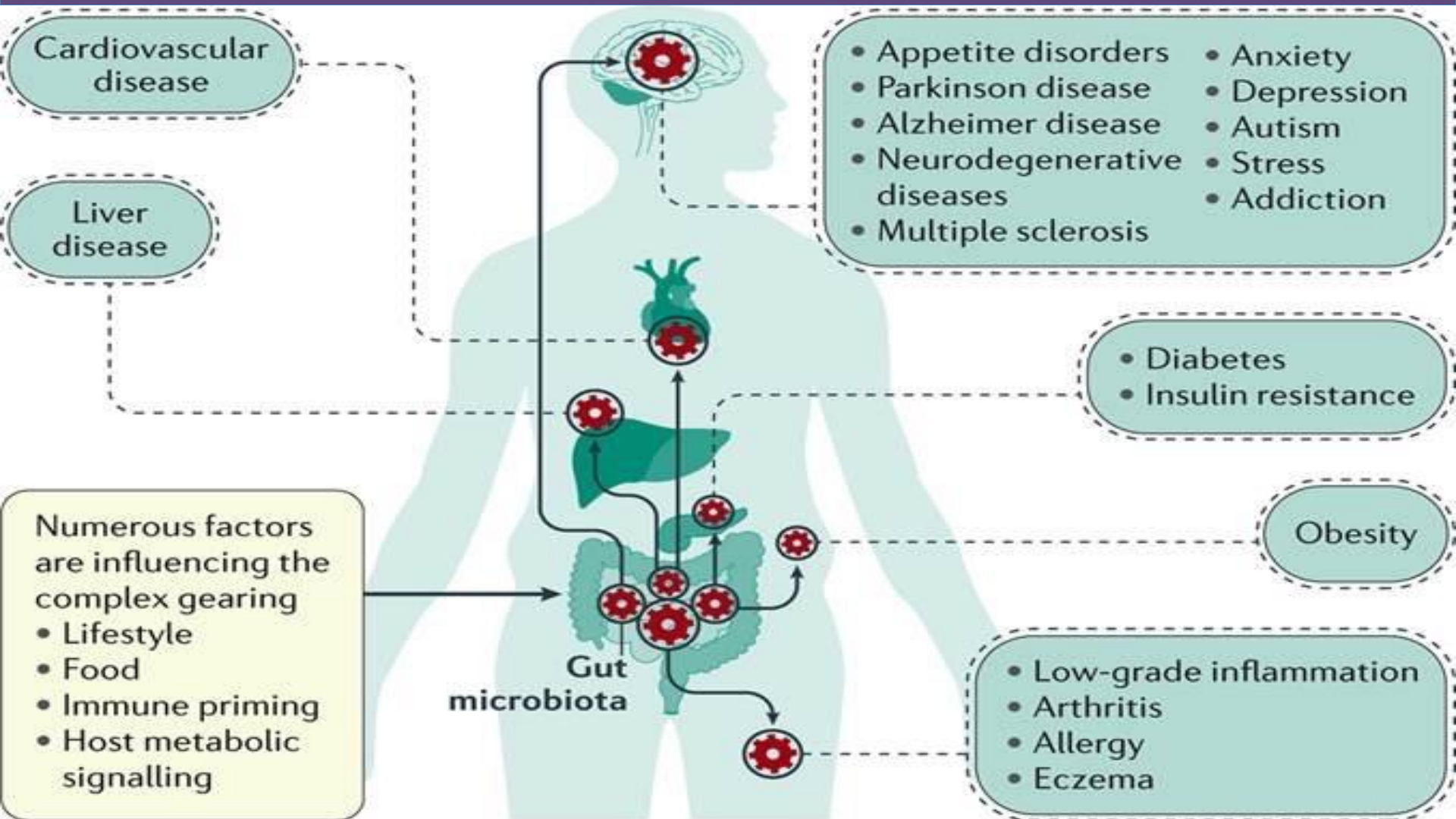
VOLUME 14 | SEPTEMBER 2017 | 527

NATURE REVIEWS | GASTROENTEROLOGY & HEPATOLOGY

Probiotics and prebiotic fiber for constipation
associated with Parkinson disease

Neurology® 2016;87:1274–1280

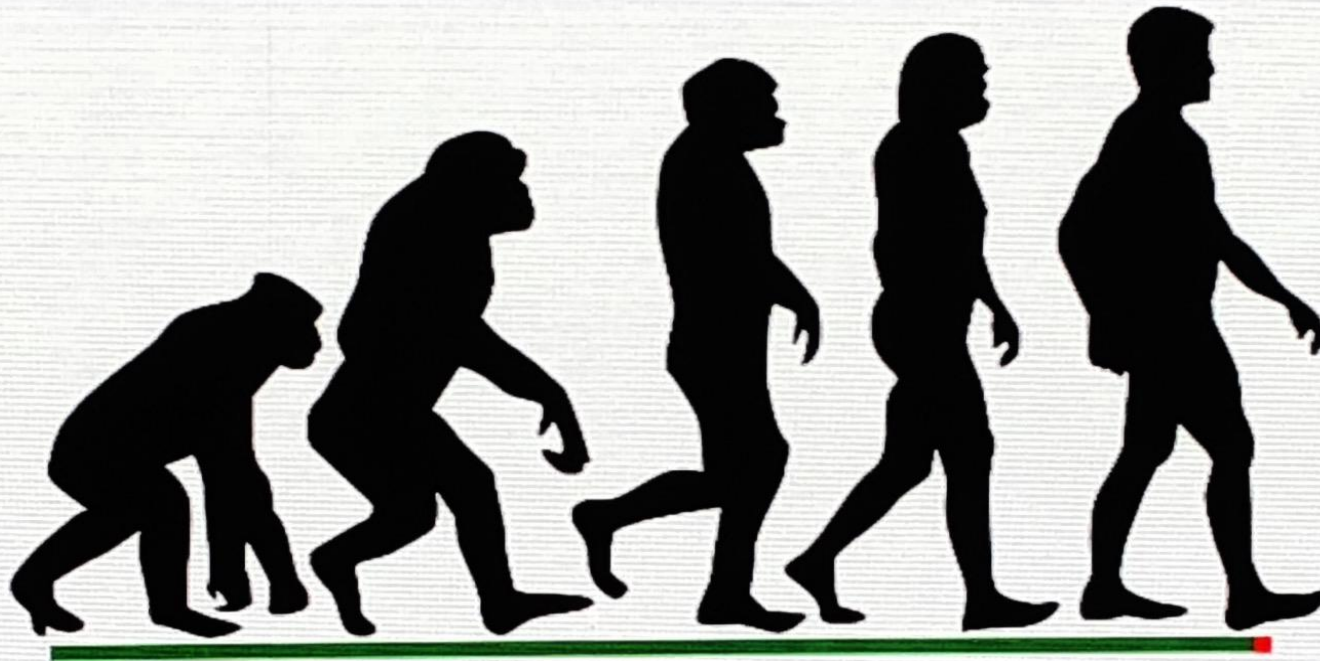
DISBIYOZIS



Early microbial contact



We are eating remarkably lower amounts of dietary fiber during the last decades



Fiber-rich diet



>150 g
fiber/day



~10 g
fiber/day
(last decades)

INSTITUTE OF PHILOSOPHY

DIRECTORY

WHY ARE
YOU HERE?



STALIN USED LAB TO STUDY MAO'S POO

Moscow: Soviet dictator Joseph Stalin spied on 'Chairman' Mao Zedong and other world leaders in the 1940s by analysing their excrement to construct psychological portraits, a former Soviet agent has claimed. Former Soviet agent Igor Atamanenko claims to have uncovered this unusual project while doing research in the archives of the Russian secret services. The secret lab was headed by Stalin's henchman Lavrenti Beria. Under this, special toilets were allegedly installed for the Chinese Communist Party leader Mao to use when he visited Moscow for 10 days in December 1949. During those 10 days, Mao was plied with food and drink and his waste products whisked off for analysis. The toilets were not connected to sewers, but collected his waste in secret boxes to be taken to the lab and studied for varying levels of potassium and amino acids, which were thought to aid psychological profiling, the BBC reported.

K CHINA US WORLD OPINION BUSINESS FOOD & DINING T

Physician Burnout

its suffer most, how many experience depression, and much more. [medscape.com](https://www.medscape.com)

Offered Mao's Poop for Psychological Profiling

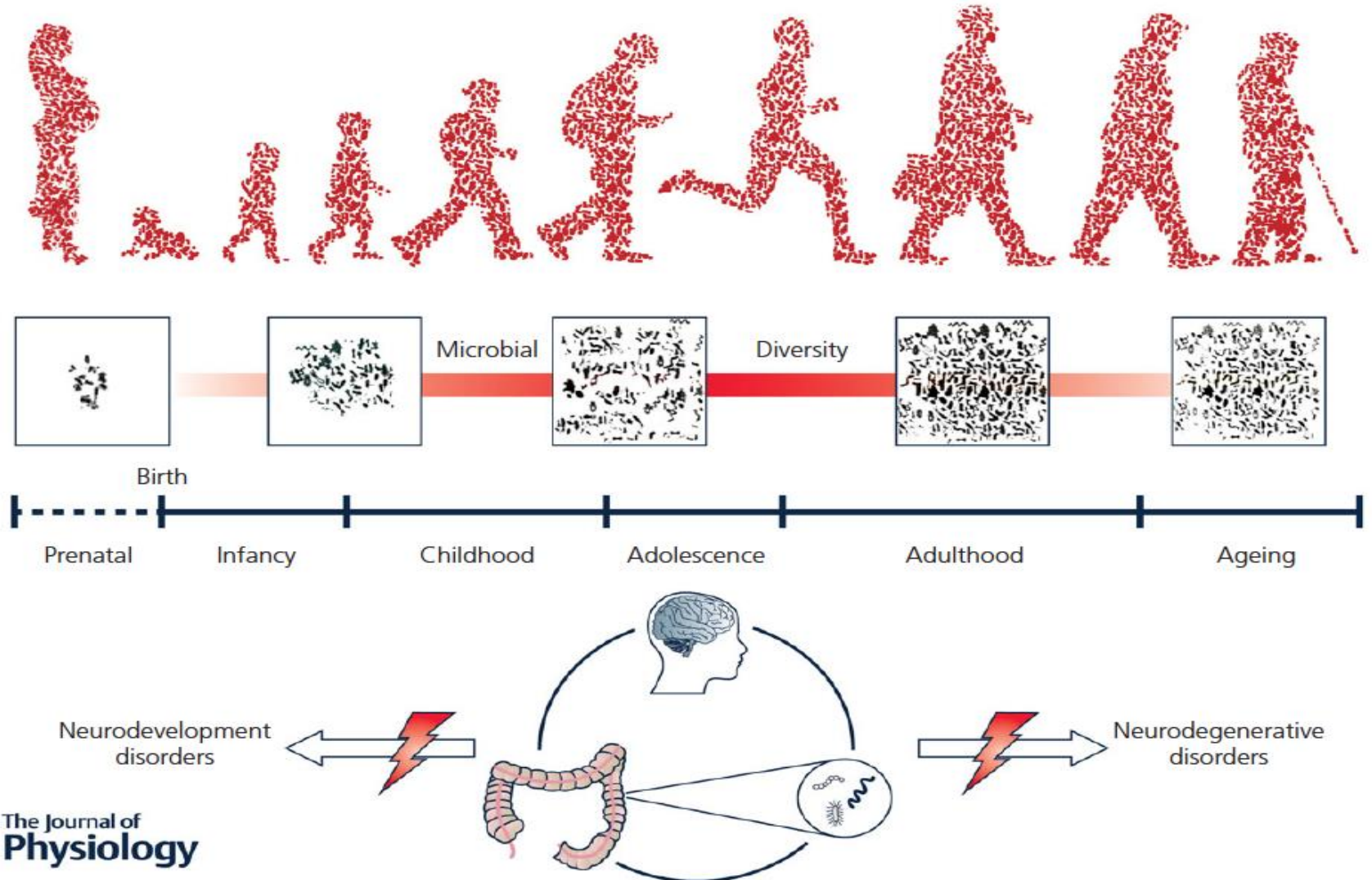
Last Updated: January 29, 2016 11:22 am



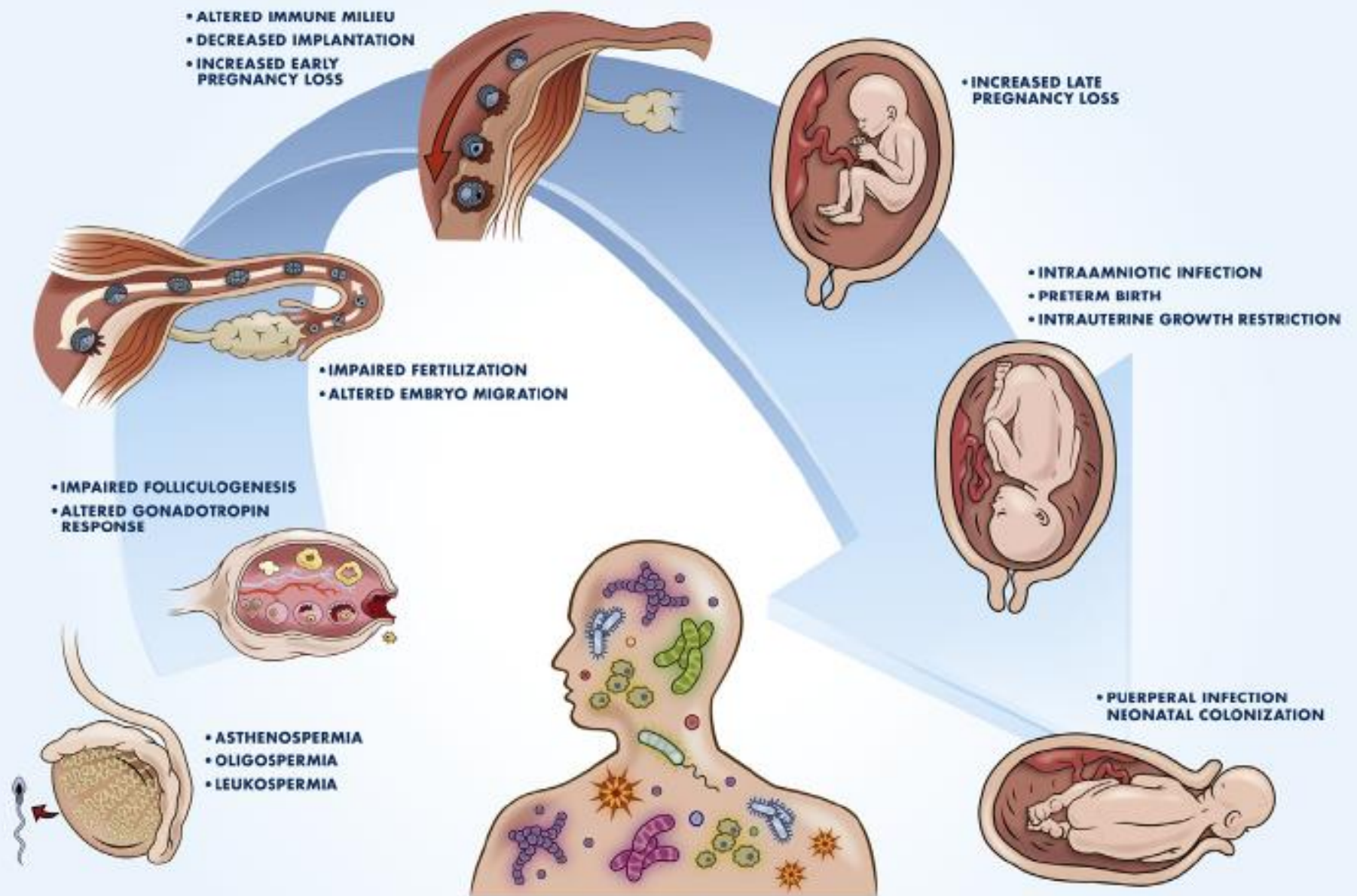


NEREDEN GELİYOR? NEREDEYİZ? NEREYE GİDİYOR? **MİKROBİYOTA**







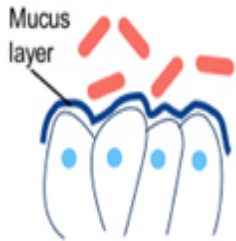


The Microbiome in Human Reproduction

Healthy *Lactobacillus*-dominated VMB

***L. crispatus*-dominated**
White/Asian women 26.2 %

- Highest lactic acid production: pH 4
- Relatively stable vaginal community
 - * More likely transition to *L. iners*-dominated
 - * Less likely transition to BV state
- Lowest prevalence viral STIs
- Core genome (10 strains)
 - * Host adhesion factors
 - * Factors for competitive exclusion of *G. vaginalis*



***L. gasseri*-dominated**
White/Asian women 6.3 %

- Lowest lactic acid production: pH 5
- Relatively stable vaginal community
 - * Rare transition to other communities



***L. jensenii*-dominated**
White/Asian women 5.3 %



Healthy or transitional?

***L. iners*-dominated**
White/Asian women 34.1 %

- Moderate lactic acid production: pH 4.4
- Isolated from both healthy and BV state
- Dominant spp. following BV treatment
- Often isolated from transition type VMB
- Adaptation to vaginal niche: *CRISPR system/
*Iron-sulfur genes/ *Cholesterol-dependent cytolysin/
*Mucin and glycogen metabolic enzymes



Non-*Lactobacillus* dominated
Black/Hispanic women 27 %



Dysbiosis VMB - BV state

**Overgrowth
facultative/strict
anaerobic bacteria**



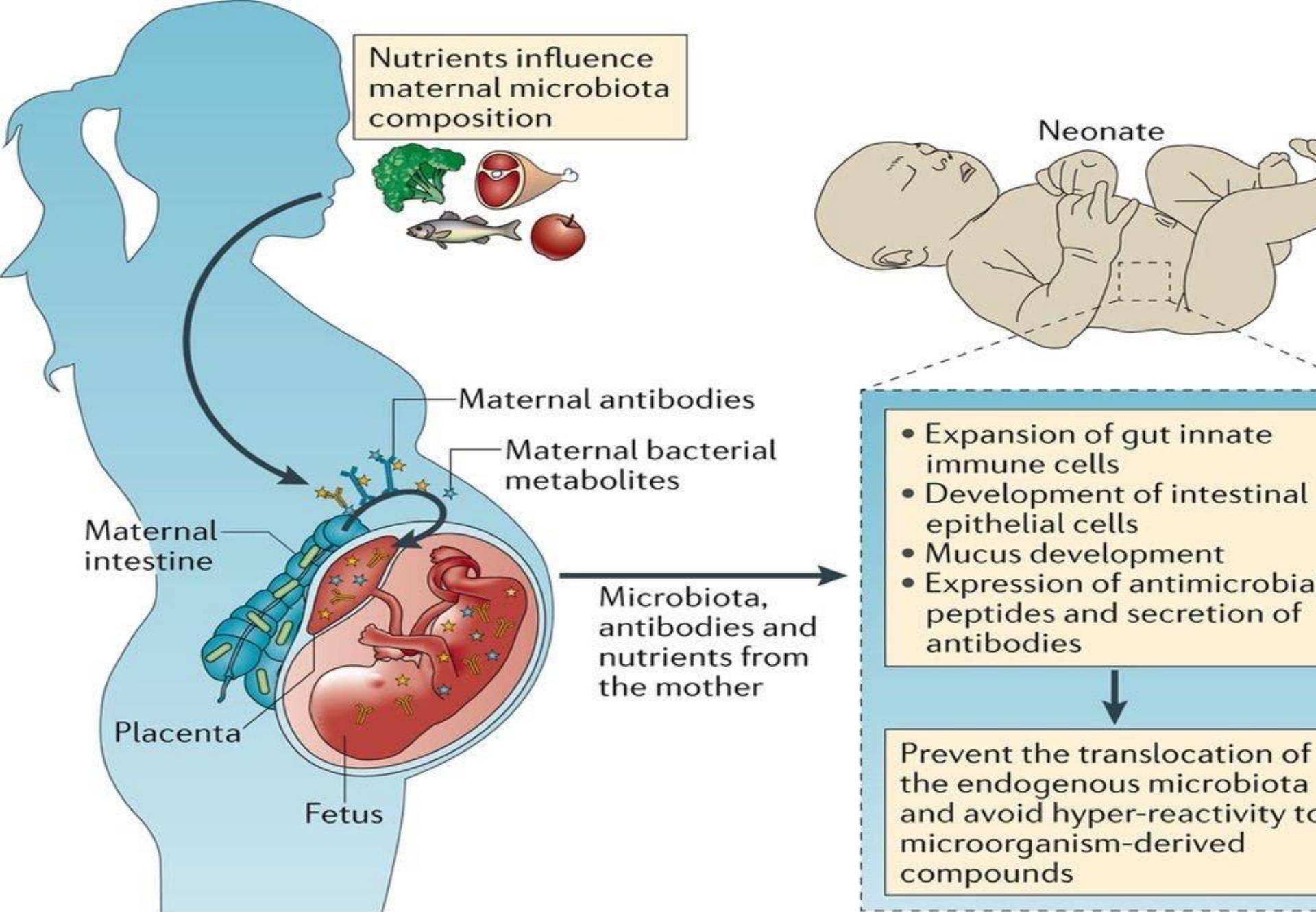
- No/low lactic acid production: pH 5.3
- High Nugent score
- Polymicrobial biofilm with *G. vaginalis*
- Facilitated acquisition STIs

Facilitated transition
to non-BV state

Facilitated transition
to BV state

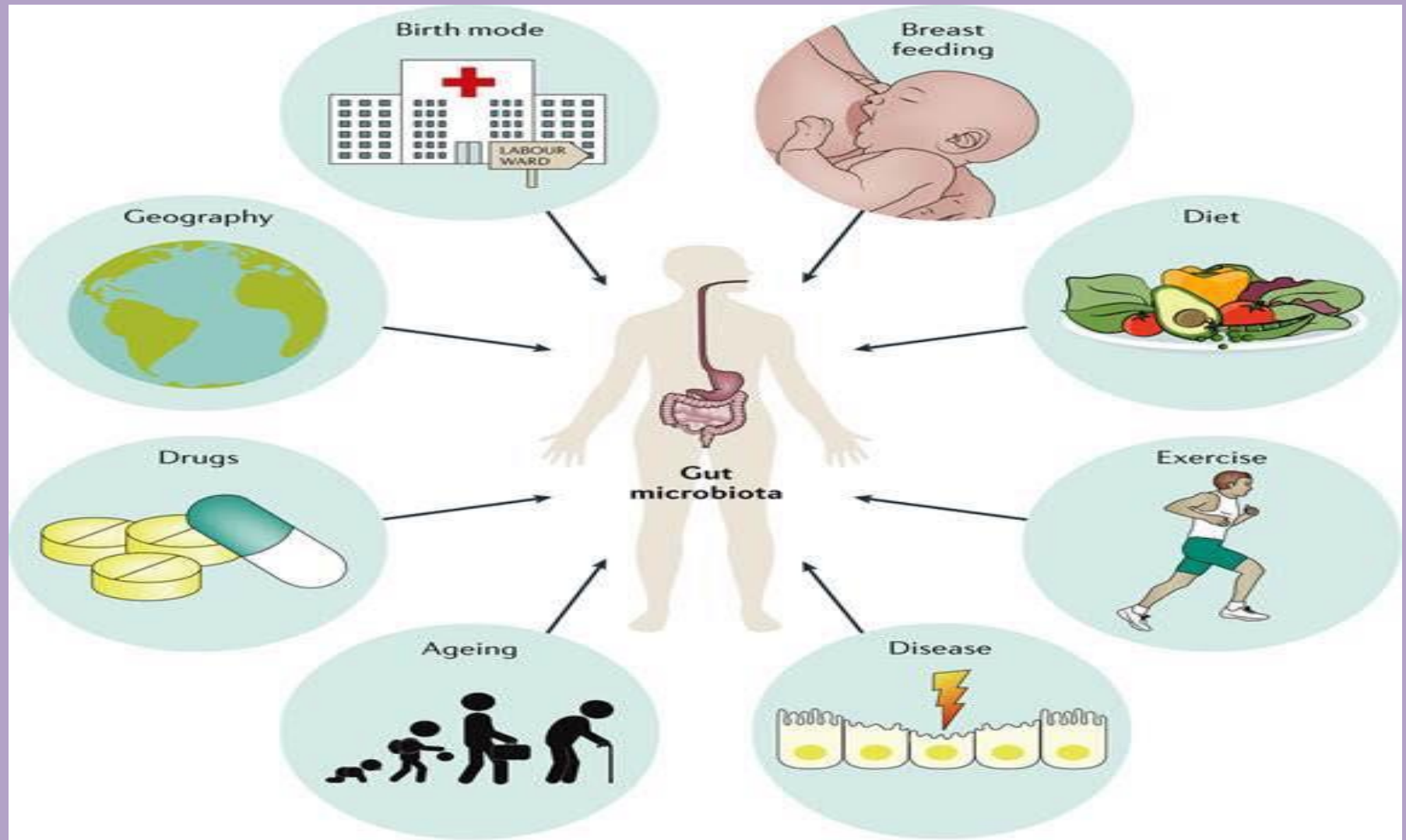
Facilitated transition
to BV state

Vajinal mikrobiyota, mitokondriyal DNA haplotipleri ilişkisi??



MİKROBİYOTA YOLCULUĞU

homeostasis...



MİKROBİYOTA YOLCULUĞU

homeostasis...

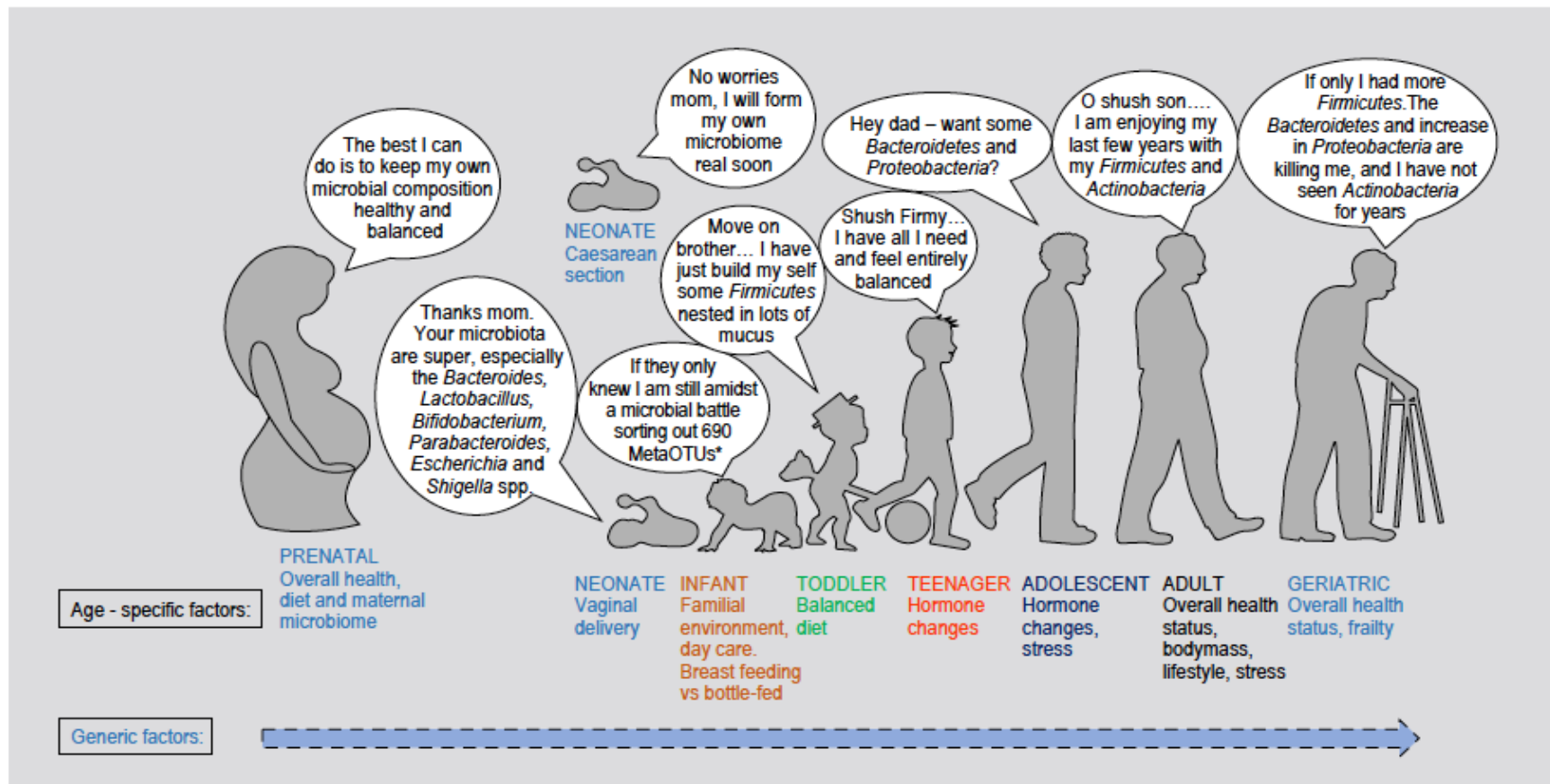
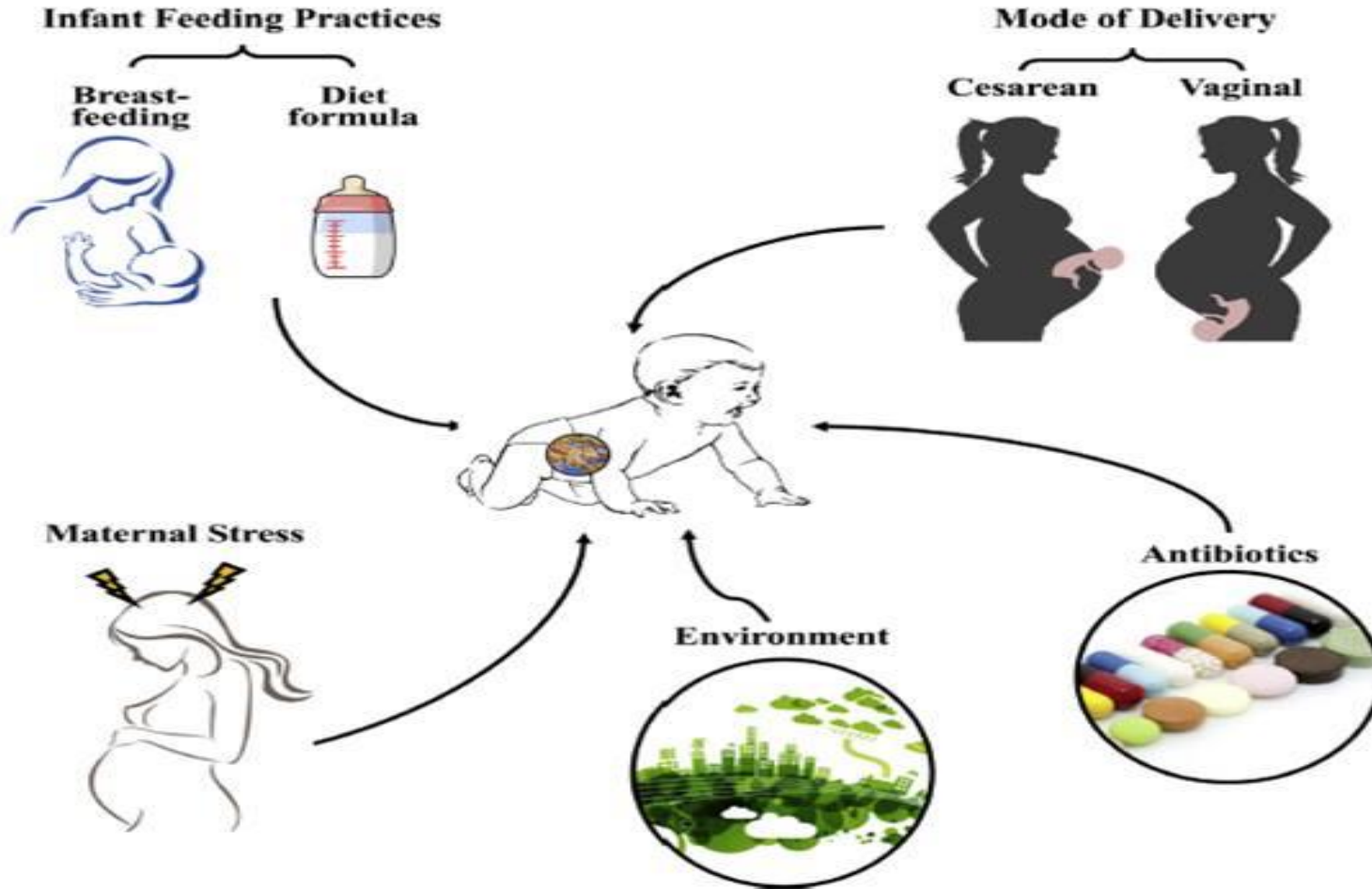


Figure 1. A long walk to homeostasis. *MetaOTUs = metagenomic operational taxonomic units, each representing a species.

MİKROBİYOTA- 1000 GÜN...

R. Diaz Heijtz / *Seminars in Fetal & Neonatal Medicine* xxi (2016) 1–8

5



MİKROBİYOTA- 1000 GÜN...

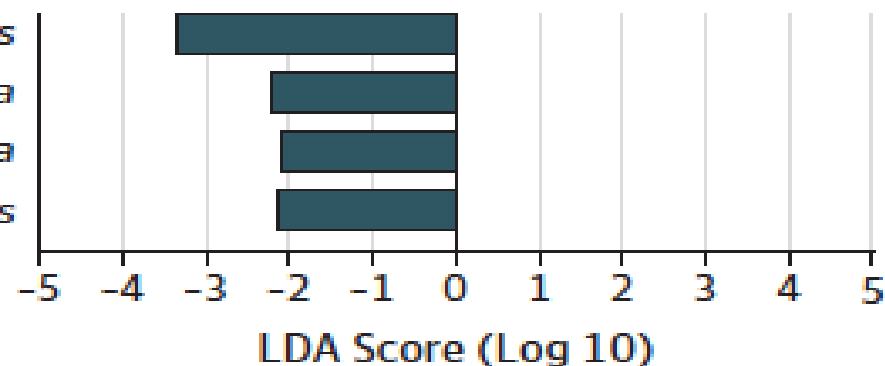
B Infants born via scheduled cesarean delivery

F: Porphyromonadaceae; G: *Parabacteroides*

F: Erysipelotrichaceae; G: *Bulleidia*

F: Tissierellaceae; G: *Finegoldia*

F: Ruminococcaceae; G: *Anaerotruncus*



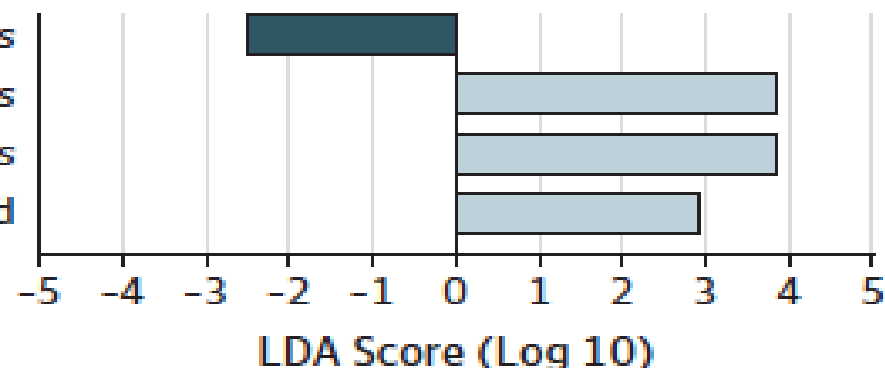
C Infants born via emergency cesarean delivery

F: Ruminococcaceae; G: *Ruminococcus*

F: Lachnospiraceae; G: *Coprococcus*

F: Lachnospiraceae; G: *Ruminococcus*

F: Unclassified TM7; G: Unclassified



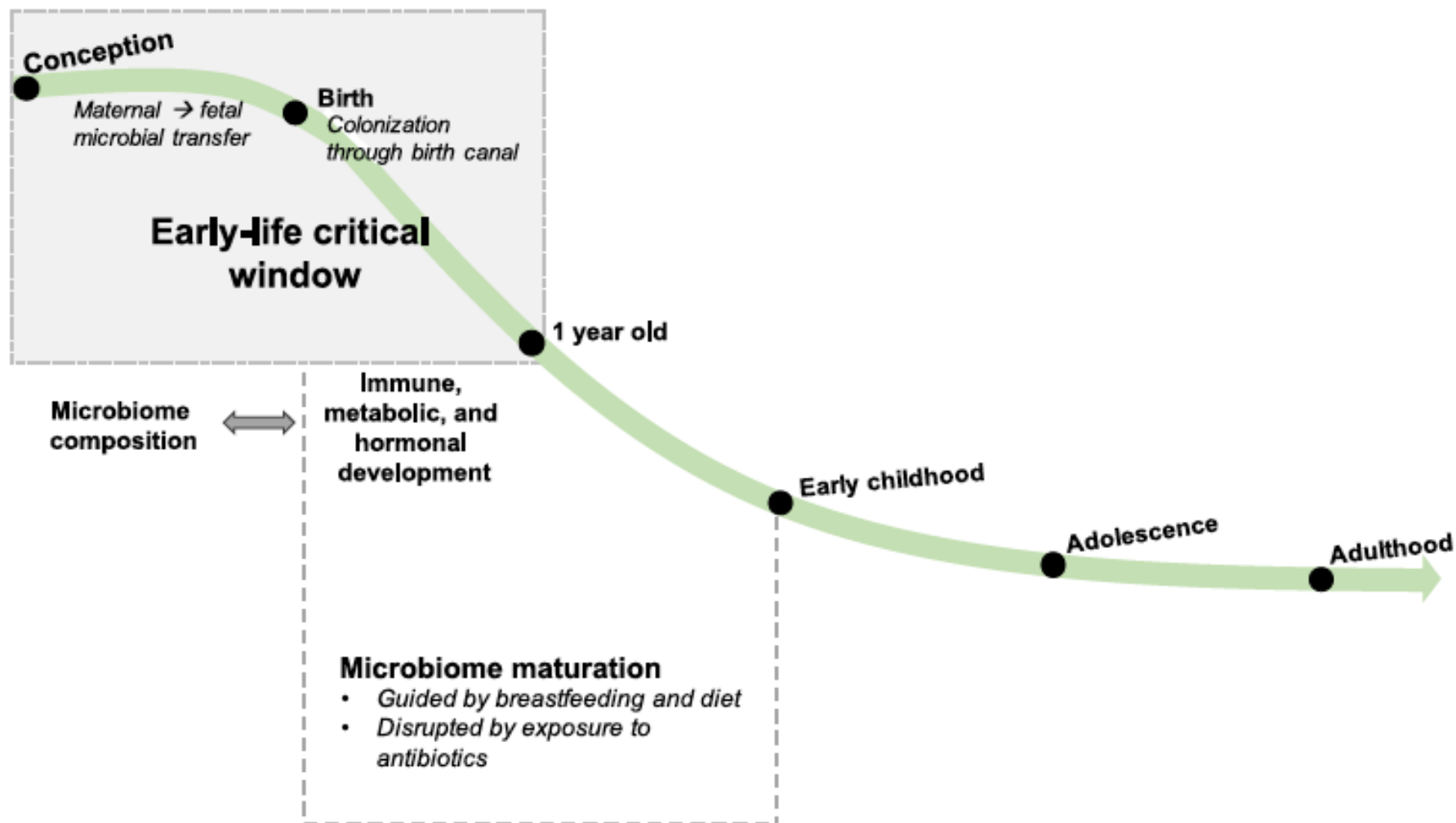


FIGURE 1

The infant microbiome is most vulnerable to environmental influences in early life. Maternal to fetal microbial transfer, mode of birth, antibiotics, and diet can alter the colonization and maturation of the early-life microbiome. These lifestyle-induced variations in microbiome composition and function can have prolonged influences on human health and may lead to the development of disease later in life.

En belirleyici faktör

ANNE

GEBELİK
DOĞUM EYLEMİ
EMZİRME
BESLENME

Bir evi ayakta tutan kadındır...



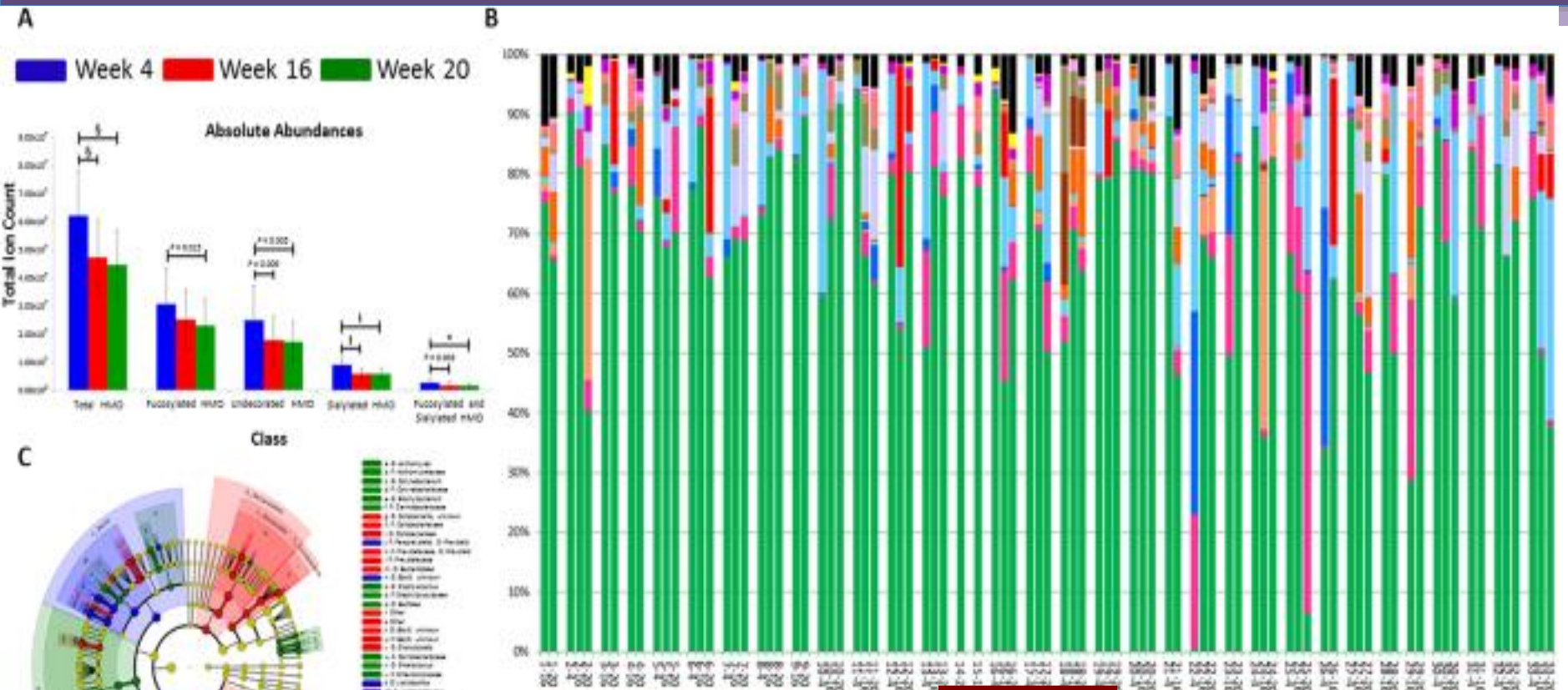
ener çağrı
dinleyici



NORMAL DOĞUM/ANNE SÜTÜ



İNTESTİNAL MİKROBİYOTA



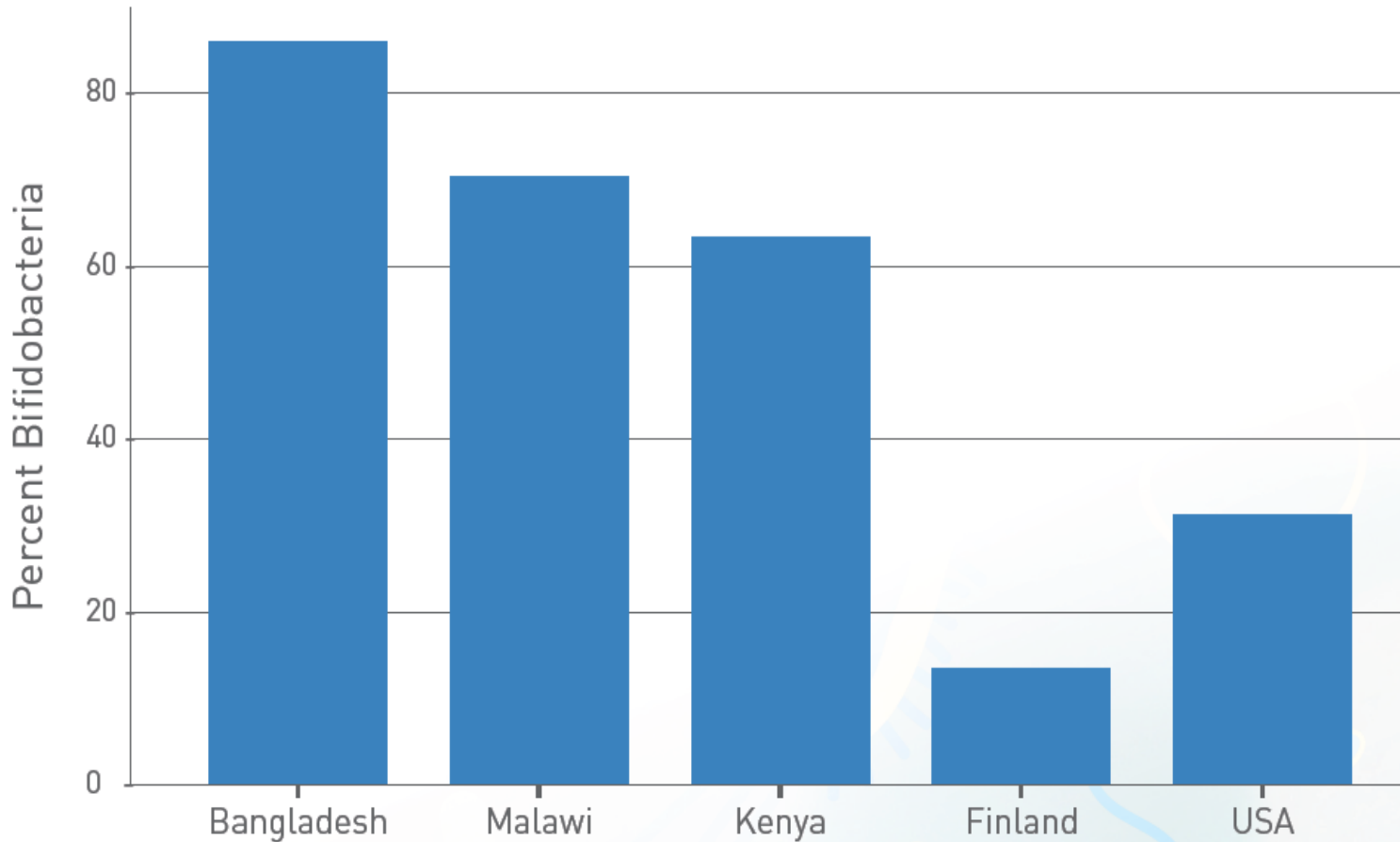
Bifidobacterial species

Percent of total bifidobacteria

<i>B. adolescentis</i>	<i>B. animalis</i>	<i>B. breve</i>	Unidentified <i>B. longum</i> group	<i>B. longum</i> subsp. <i>infantis</i>	<i>B. longum</i> subsp. <i>longum</i>	<i>B. bifidum</i> / <i>B.</i> <i>pseudocatenulatum</i>	Unknown
0	0.0127	0.941	2.22	76.9	14.1	5.69	0.179

İLK 1000 GÜN MİKROBİYOTA

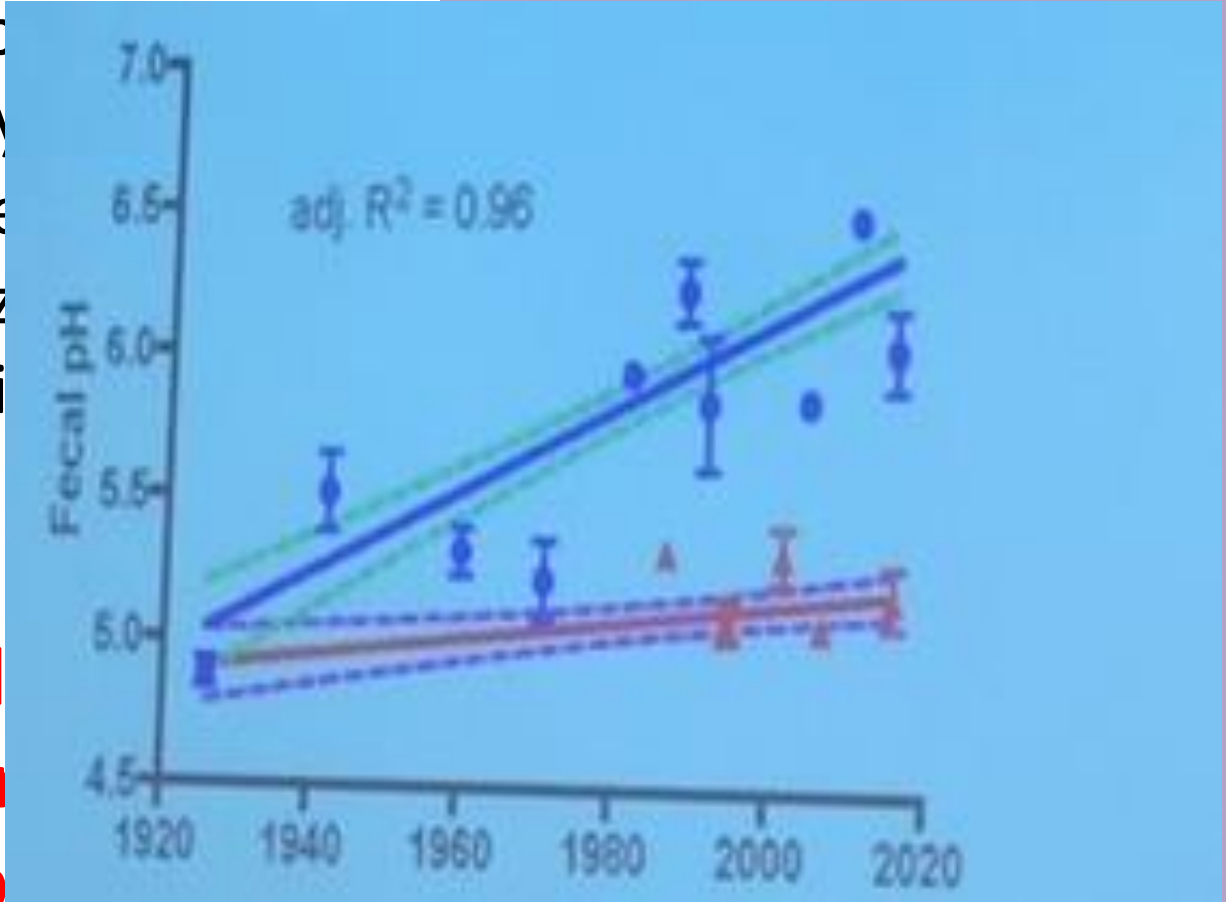
% Fecal Bifidobacteria in Infants from Various Global Regions



İLK 1000 GÜN BESLENME MİKROBİYOTA pH

- Anne sütü ile beslenen bebeklerde gıda asidik olması, e bašta olmak üzere mikrobiyotası i belirleyici.

- **Son 100 yıl
anne sütü ile
bebeklerin
pH'sında belirgin bir
artış??**

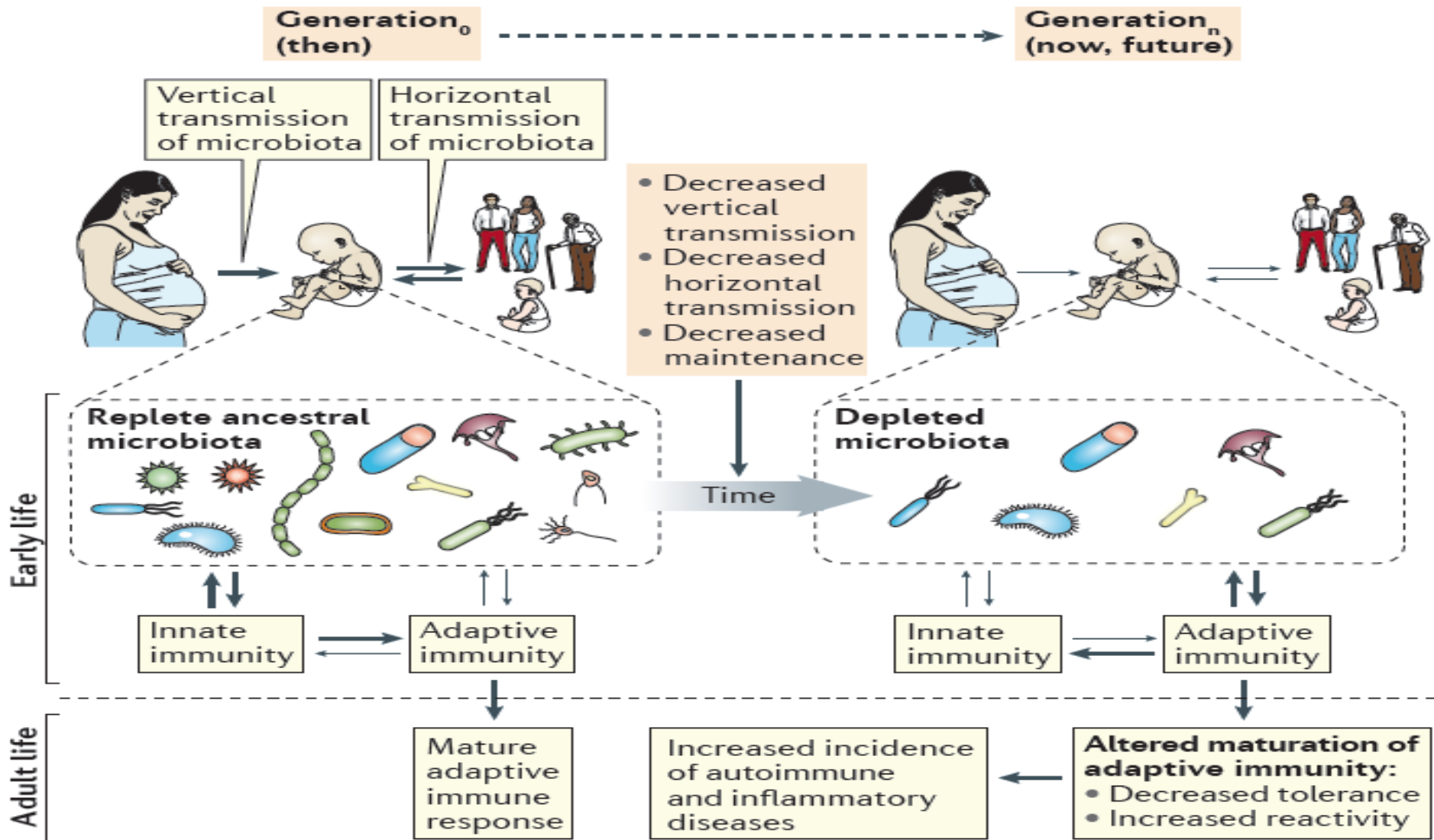


İLK 1000 GÜN BESLENME MİKROBİYOTA

- Anne sütü ile beslenen bebeklerde intestinal mikrobiyota öncüsü
 - **BIFIDOBACTERIA**
- Low-BIF anneler
- Low-BIF bebekler

**Oligosakkarit takviyesi ile
BIFIDOBACTERIA artışı**





Langdon et al. *Genome Medicine* (2016) 8:39
DOI 10.1186/s13073-016-0294-z

Genome Medicine

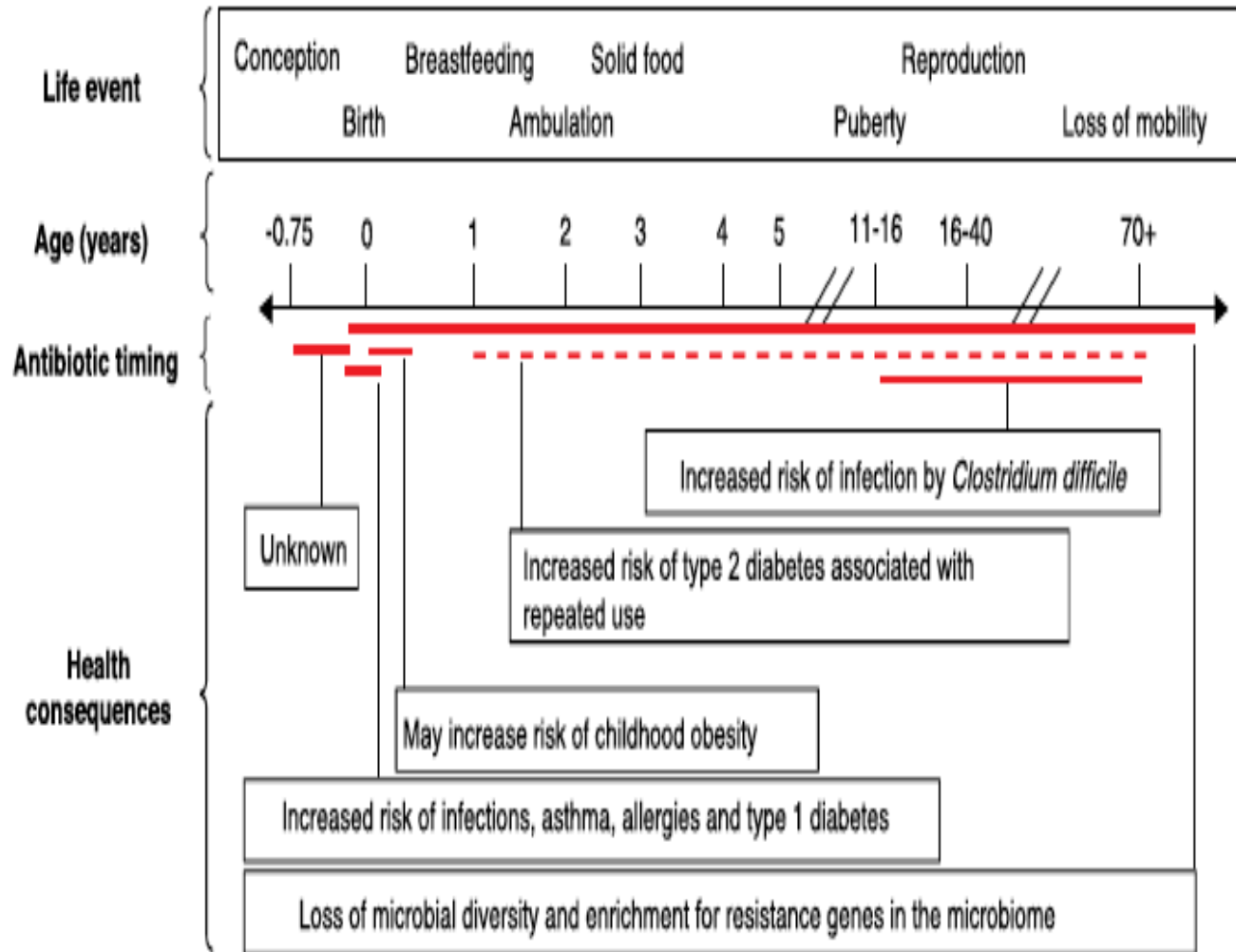
REVIEW

Open Access



The effects of antibiotics on the microbiome throughout development and alternative approaches for therapeutic modulation

Amy Langdon^{1,2†}, Nathan Crook^{1,3†} and Gautam Dantas^{1,3,4,5*}





International Journal of Obesity (2013) 37, 16–23

© 2013 Macmillan Publishers Limited All rights reserved 0307-0565/13

www.nature.com/ijo

PEDIATRIC ORIGINAL ARTICLE

Infant antibiotic exposures and early-life body mass

L Trasande^{1,2,3}, J Blustein^{3,4}, M Liu², E Corwin³, LM Cox⁵ and MJ Blaser^{4,5}

**Antibiotic Exposure and IBD Development Among Children: A
Population-Based Cohort Study**

Matthew P. Kronman, Theoklis E. Zaoutis, Kevin Haynes, Rui Feng and Susan E.
Coffin

Pediatrics; originally published online September 24, 2012;

DOI: 10.1542/peds.2011-3886

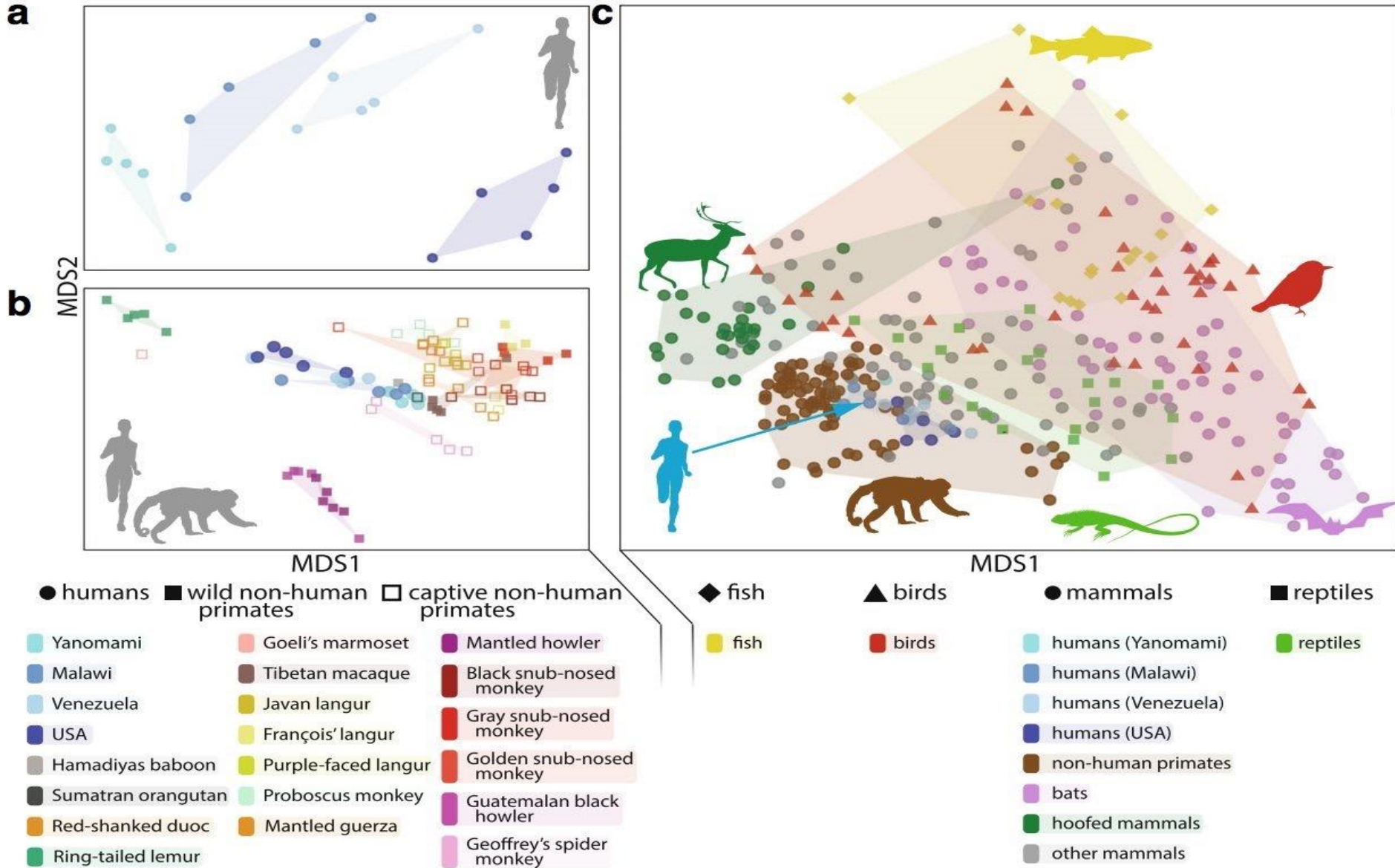
PEDIATRICS®

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

ANTİBİYOTİK İLİŞKİLİ İSHAL

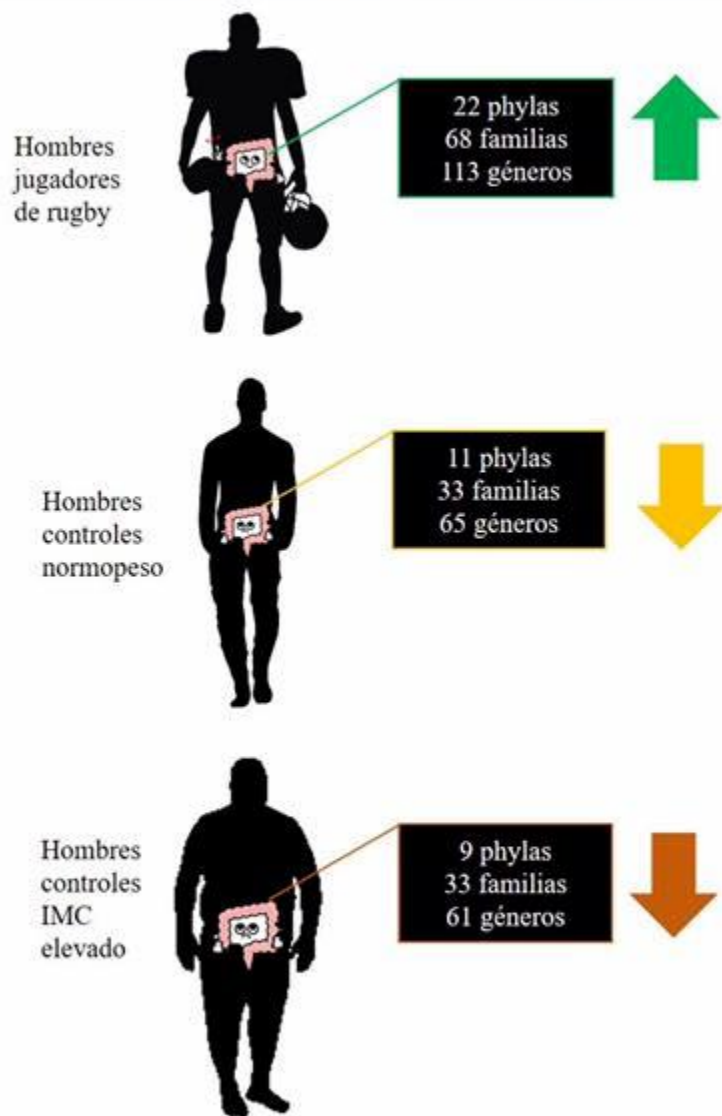


MİKROBİYOTA COĞRAFİ FARKLILIK

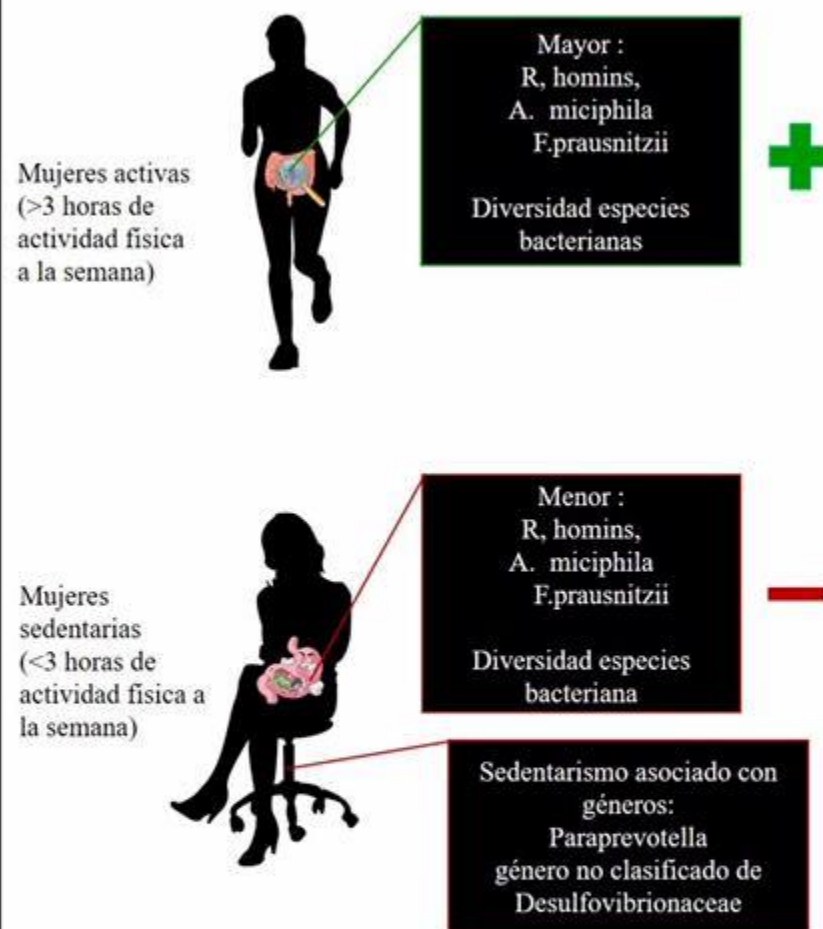




Comparación de la diversidad microbiota intestinal entre jugadores de rugby y hombres control



Comparación de la composición y diversidad de la microbiota intestinal entre mujeres activas y sedentarias



Referencia: Clarke SF, Murphy EF, O'Sullivan O, Lucey AJ, Humphreys M, Hogan A, et al. Exercise and associated dietary extremes impact on gut microbial diversity. Gut. 2014;63(12):1913-20.

Referencia: Bressa C, Bailen-Andrino M, Perez-Santiago J, Gonzalez-Soltero R, Perez M, Montalvo-Lominchar MG, et al. Differences in gut microbiota profile between women with active lifestyle and sedentary women. PLoS One. 2017;12(2):e0171352



Cigarette smoking alters the mouth microbiota

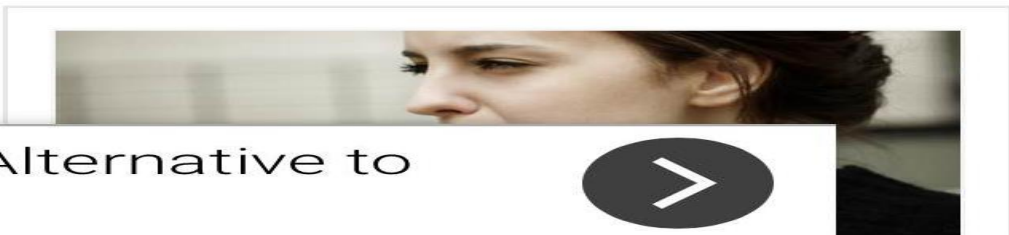
Written by [Yvette Brazier](#)

Published: Sat 2 Apr 2016



Smoking significantly changes the mouth's microbiome, with potential implications for tooth decay and the ability to break down toxins, according to results published in the *ISME (International Society for Microbial Ecology) Journal*.

Cigarette smoking is the number one cause of pre and n



The Professional Alternative to Stool Sampling



Conceptual framework for the influence of household pets on gut microbiota and health outcomes in infants

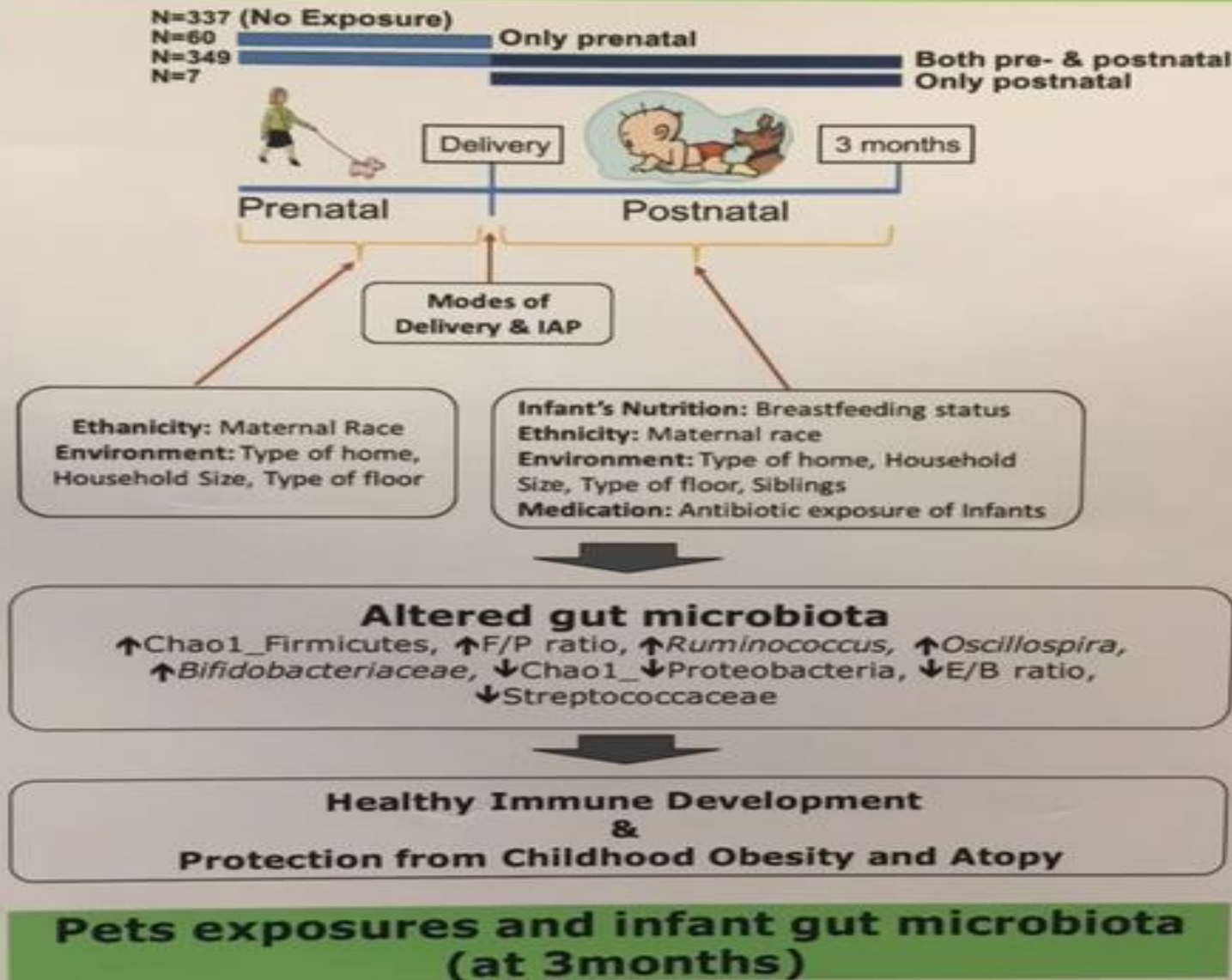


Figure 1. Microbiota diversity and richness in infant gut influenced by pet exposure

ORIGINAL ARTICLE

AIRWAY DISEASES

Green areas around homes reduce atopic sensitization in children

L. Ruokolainen¹, L. von Hertzen², N. Fyhrquist³, T. Laatikainen^{4,5}, J. Lehtomäki¹, P. Auvinen⁶, A. M. Karvonen⁷, A. Hyvärinen⁷, V. Tillmann^{8,9}, O. Niemelä¹⁰, M. Knip^{11,12,13,14}, T. Haahtela², J. Pekkanen^{7,15} & I. Hanski¹

¹Department of Biosciences, University of Helsinki; ²Allergy Department, Skin and Allergy Hospital, Helsinki University Hospital; ³Finnish Institute of Occupational Health; ⁴Department of Chronic Disease Prevention, National Institute for Health and Welfare, Helsinki; ⁵Institute of Public Health and Clinical Nutrition, University of Eastern Finland, Kuopio; ⁶Institute of Biotechnology, University of Helsinki, Helsinki; ⁷Department of Environmental Health, National Institute for Health and Welfare, Kuopio, Finland; ⁸Department of Pediatrics, University of Tartu; ⁹Tartu University Hospital, Tartu, Estonia; ¹⁰Department of Laboratory Medicine and Medical Research Unit, Seinäjoki Central Hospital and University of Tampere, Tampere; ¹¹Children's Hospital, University of Helsinki and Helsinki University Central Hospital; ¹²Diabetes and Obesity Research Program, University of Helsinki; ¹³Folkhälsan Research Center, Helsinki; ¹⁴Department of Pediatrics, Tampere University Hospital, Tampere; ¹⁵Department of Public Health, University of Helsinki, Helsinki, Finland

ÇEVRESEL ETKENLER



Review Article

Vol. 8, No. 1, 1-7
<https://doi.org/10.15280/jlm.2018.8.1.1>

Journal of
Lifestyle
Medicine

Influence of Altered Gut Microbiota Composition on Aging and Aging-Related Diseases

Jeonghyun Choi^{1,2,3}, Tai-Young Hur⁴, Yonggeun Hong^{1,2,3,5,*}

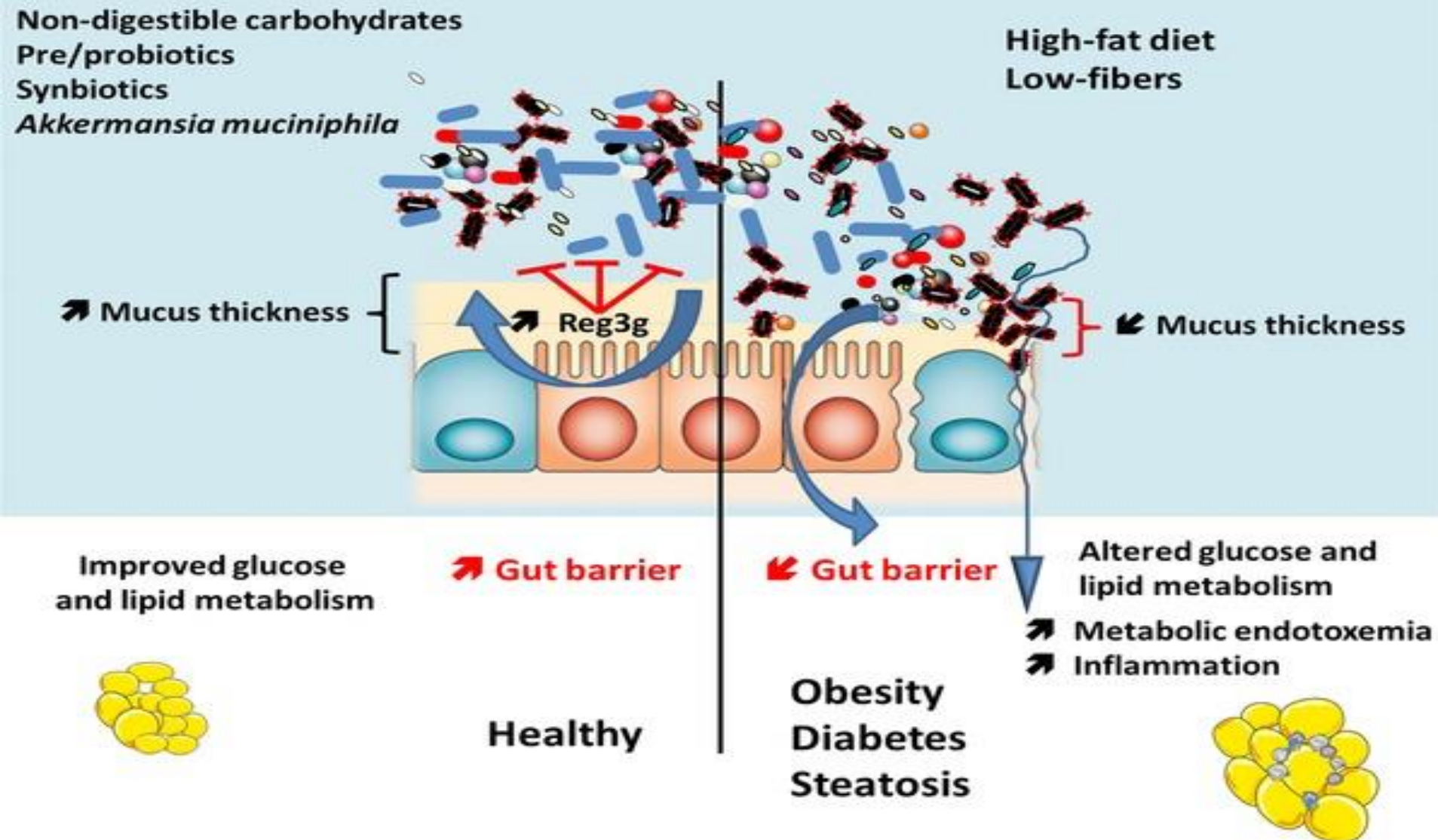
¹Department of Rehabilitation Science, Graduate School, ²Biohealth Products Research Center (BPRC), ³Ubiquitous Healthcare & Anti-aging Research Center (u-HARC), Inje University, Gimhae, ⁴Animal Biotechnology Division, National Institute of Animal Science, Wanju, ⁵Department of Physical Therapy, College of Healthcare Medical Science & Engineering, Inje University, Gimhae, Korea



OBESİTE



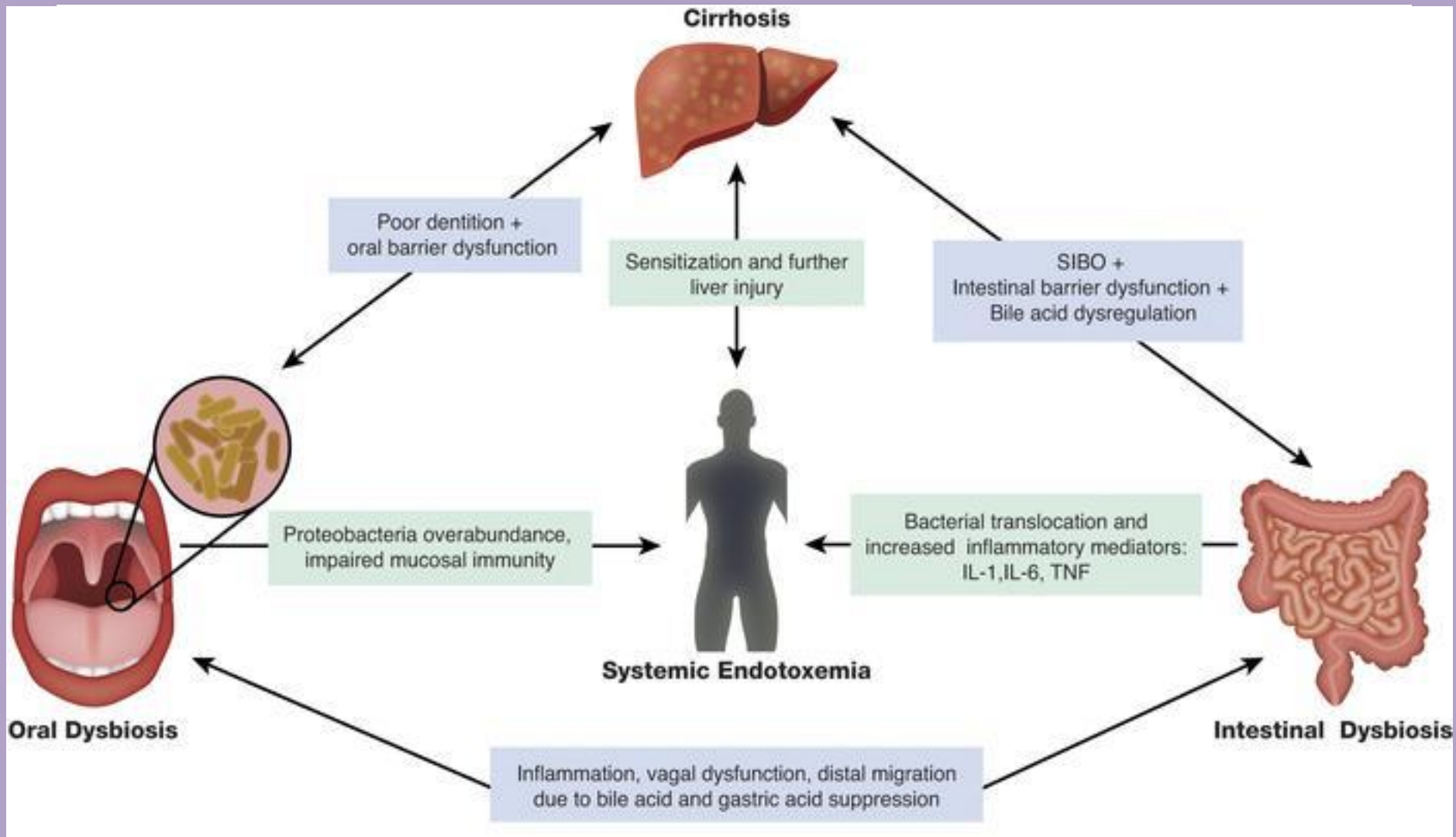
METABOLİK SENDROM??



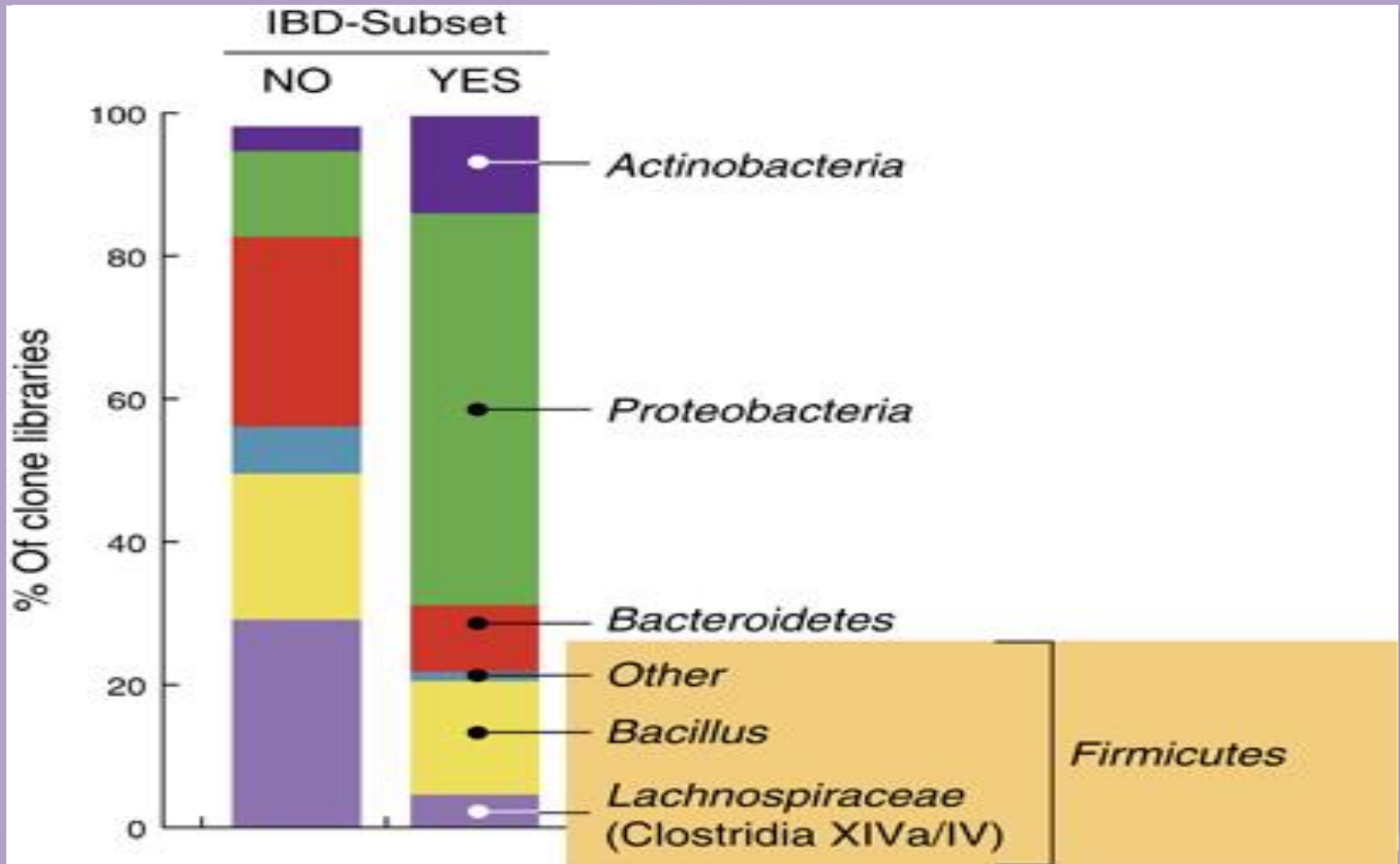
AKKERMANSIA MUCINIPHILIA

- *A. muciniphila*'nın pastörize formunun deney hayvanlarına verildiğinde yağ kitlesi gelişimini azalttığı, insülin rezistansı ve dislipidemi gelişimini engellediği gösterilmiştir.
- Bakterinin bu etkisinin, **Amuc_1100** adı verilen bir dış membran proteini üzerinden Toll-like reseptör-2 aracılığı ile yaptığı gösterilmiş.

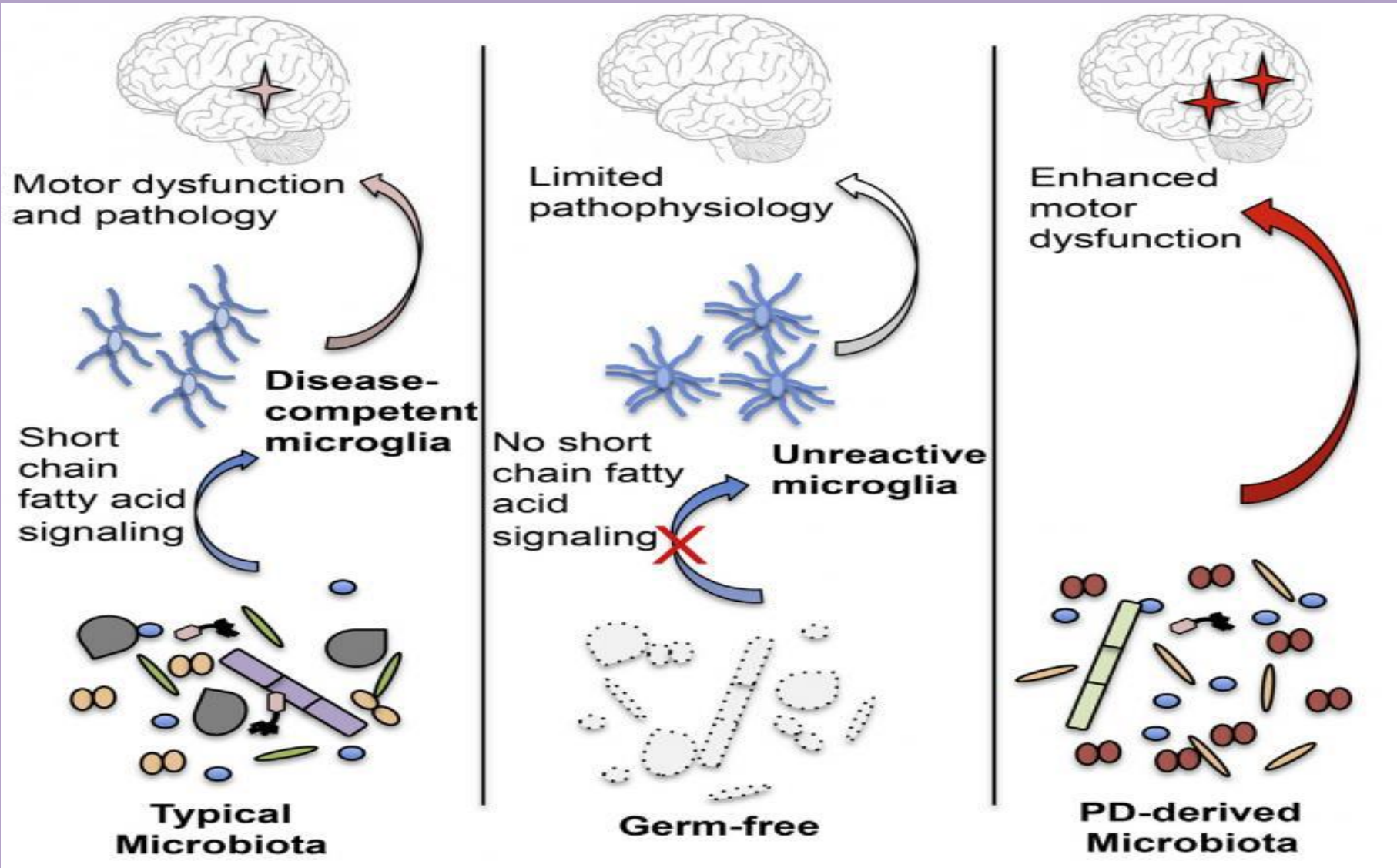
Plovier et al. Nature Medicine 2016 (in press)



MİKROBİYOTA İNFLAMATUAR BAĞIRSAK HASTALIKLARI



MİKROBİYOTA-PARKİNSON



An Invisible Epidemic

100+ **16%** **10**

diseases

US population

Top leading
cause of
death
in women
less than 64
yrs

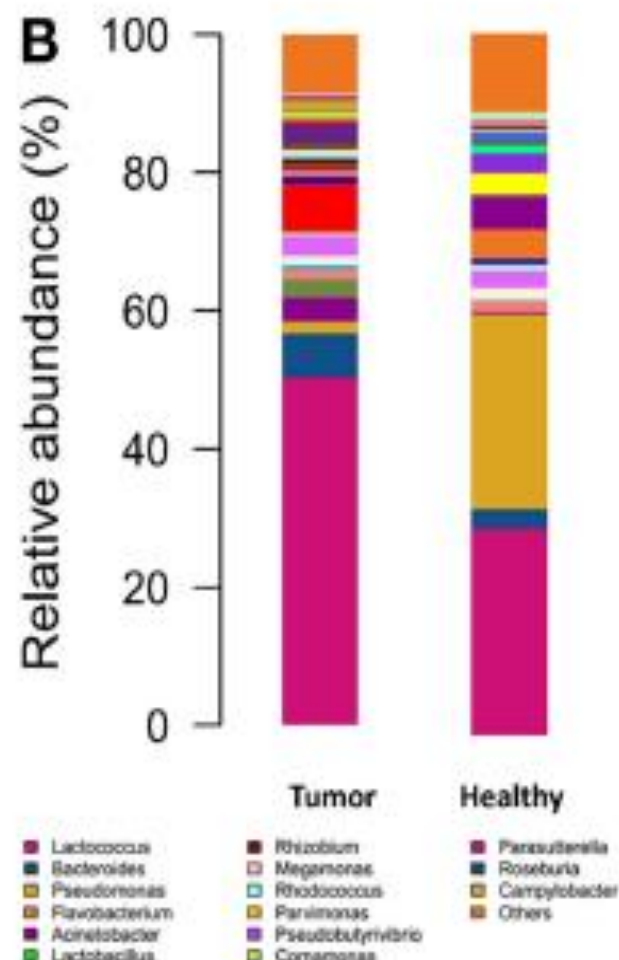
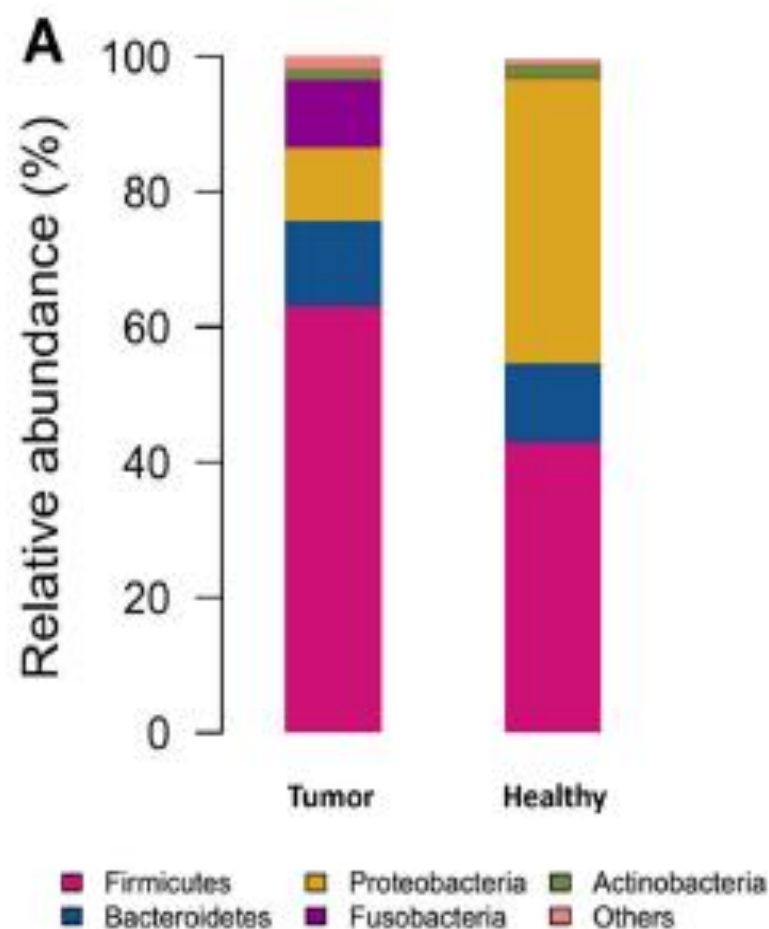




Microbiota disbiosis is associated with colorectal cancer

Zhiguang Gao[†], Bomin Guo[†], Renyuan Gao[†], Qingchao Zhu and Huanlong Qin*

Department of General Surgery, Shanghai Jiao Tong University Affiliated Sixth People's Hospital, Shanghai, China



ARTICLE IN PRESS

Best Practice & Research Clinical Gastroenterology xxx (2017) 1–6



Contents lists available at ScienceDirect

Best Practice & Research Clinical Gastroenterology

journal homepage: <https://ees.elsevier.com/ybega/default.asp>



Action and function of *Faecalibacterium prausnitzii* in health and disease

Carmen Veríssima Ferreira-Halder ^{a, *}, Alessandra Valéria de Sousa Faria ^a,
Sheila Siqueira Andrade ^{b, **}

^a Department of Biochemistry and Tissue Biology, University of Campinas, São Paulo, Brazil

^b Plateinnove Biotechnology, Piracicaba, São Paulo, Brazil

EDITORIAL

For reprint orders, please contact: reprints@futuremedicine.com

Can breast microbiota provide protective effects against cancer?



Gregor Reid*

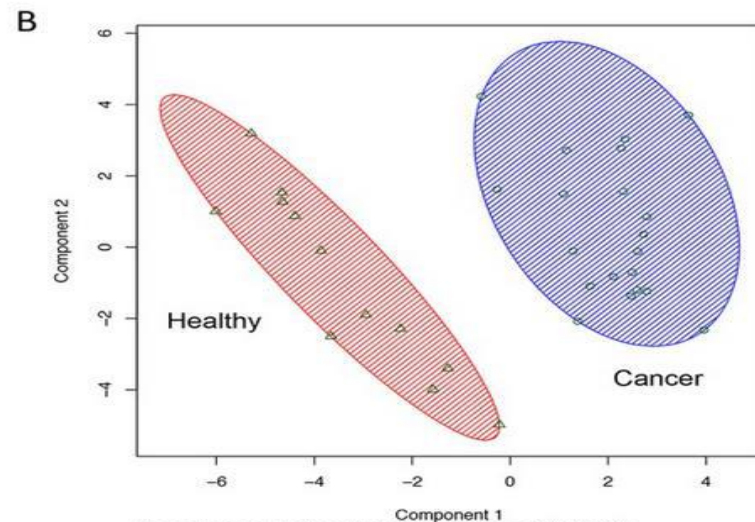
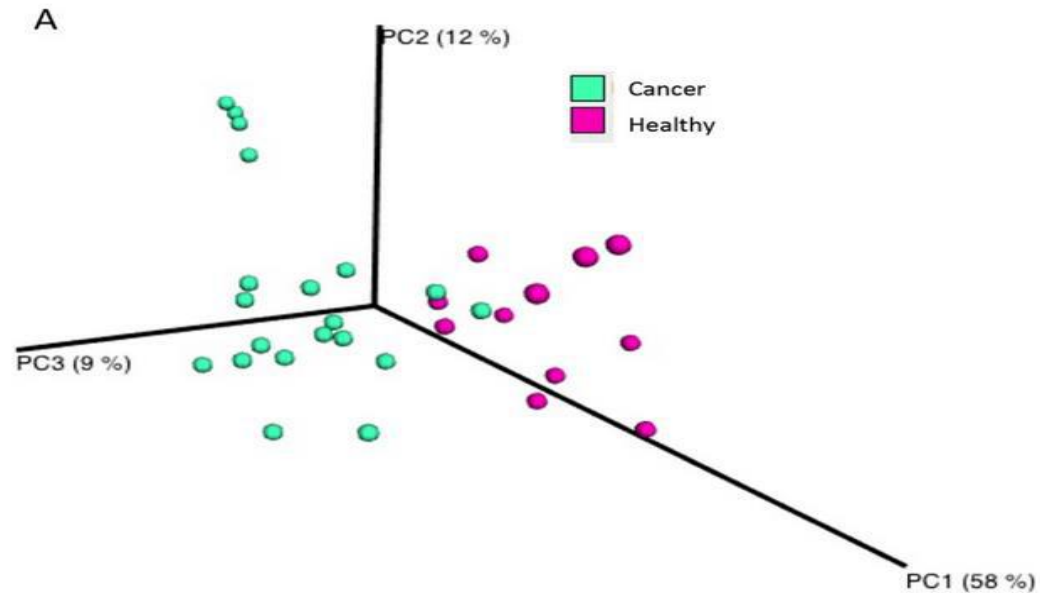
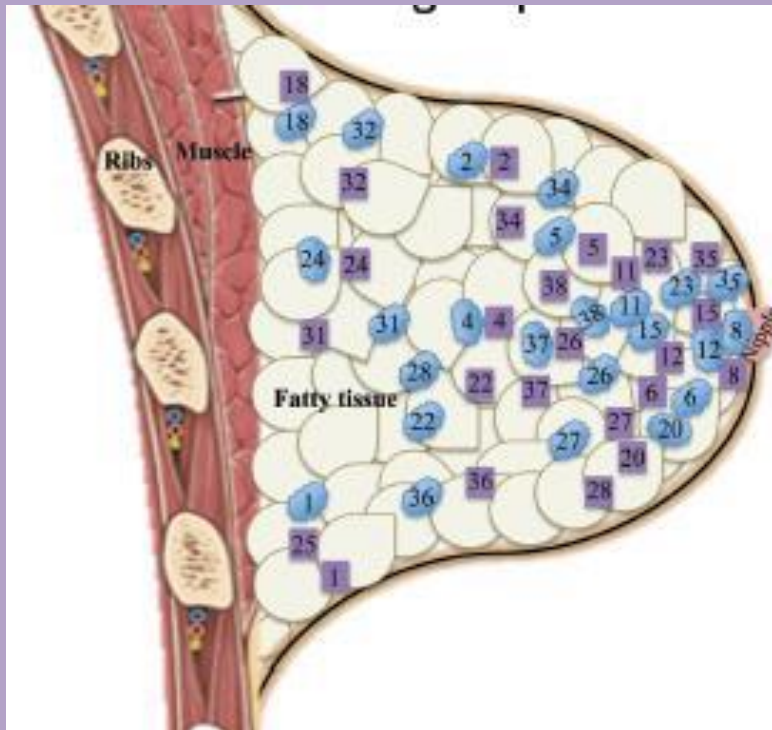
“The breadth of bacterial species in milk has only recently been uncovered by molecular techniques.”

First draft submitted: 6 July 2016; Accepted for publication: 8 July 2016;
Published online: 5 August 2016



Microbiota of Human Breast

Camilla Urbaniak,^{a,b} Joanne Cummins,^c Muriel Brackston,^d Leslie Scott,^d Deidre M. O'Hanlon,^f Jeremy P. Burton,^a & ...



These two components explain 44.85 % of the point variability.

Published in final edited form as:

Science. 2018 January 05; 359(6371): 97–103. doi:10.1126/science.aan4236.

Gut microbiome modulates response to anti-PD-1 immunotherapy in melanoma patients

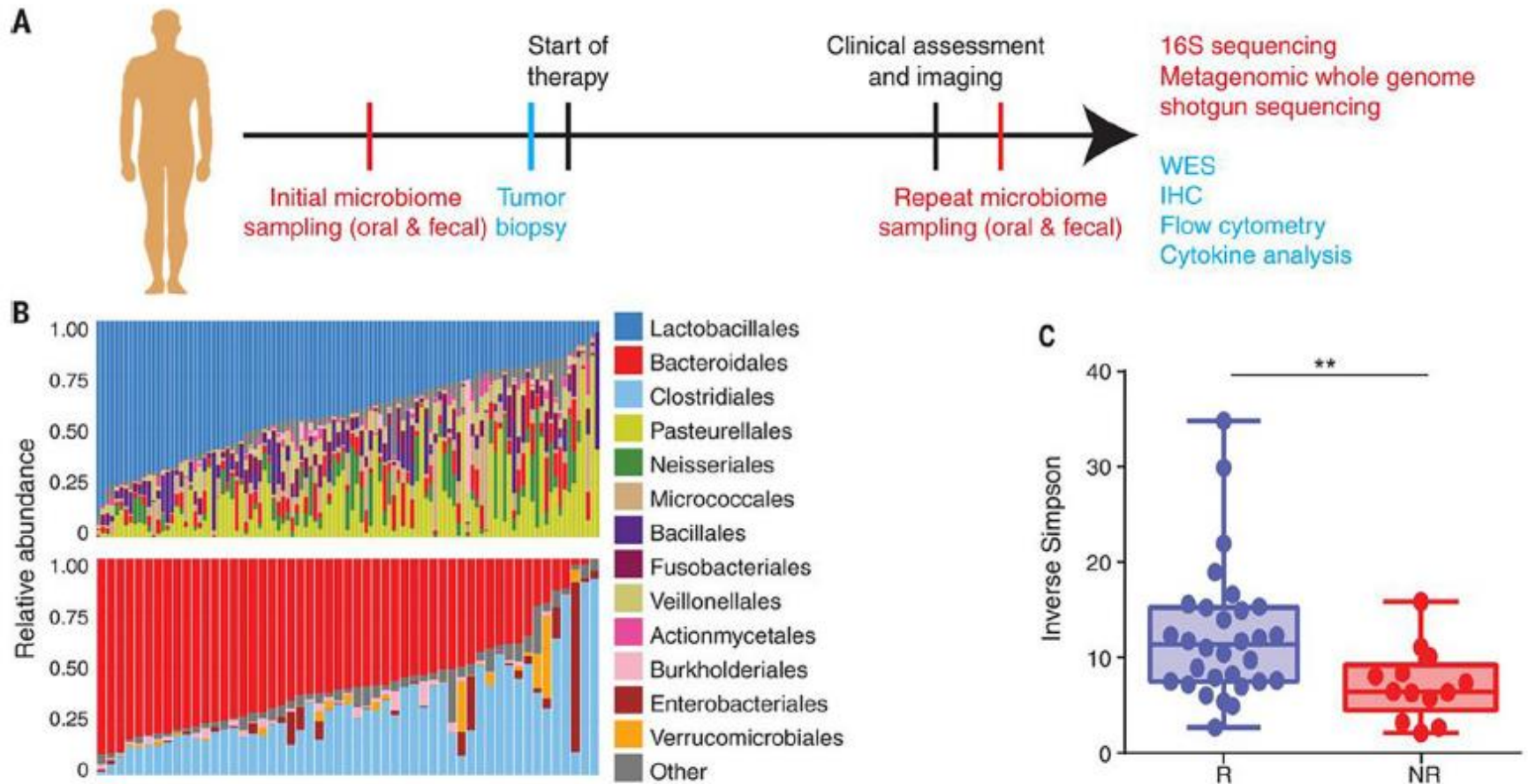
Science. 2018 Jan 5;359(6371):104-108. doi: 10.1126/science.aao3290.

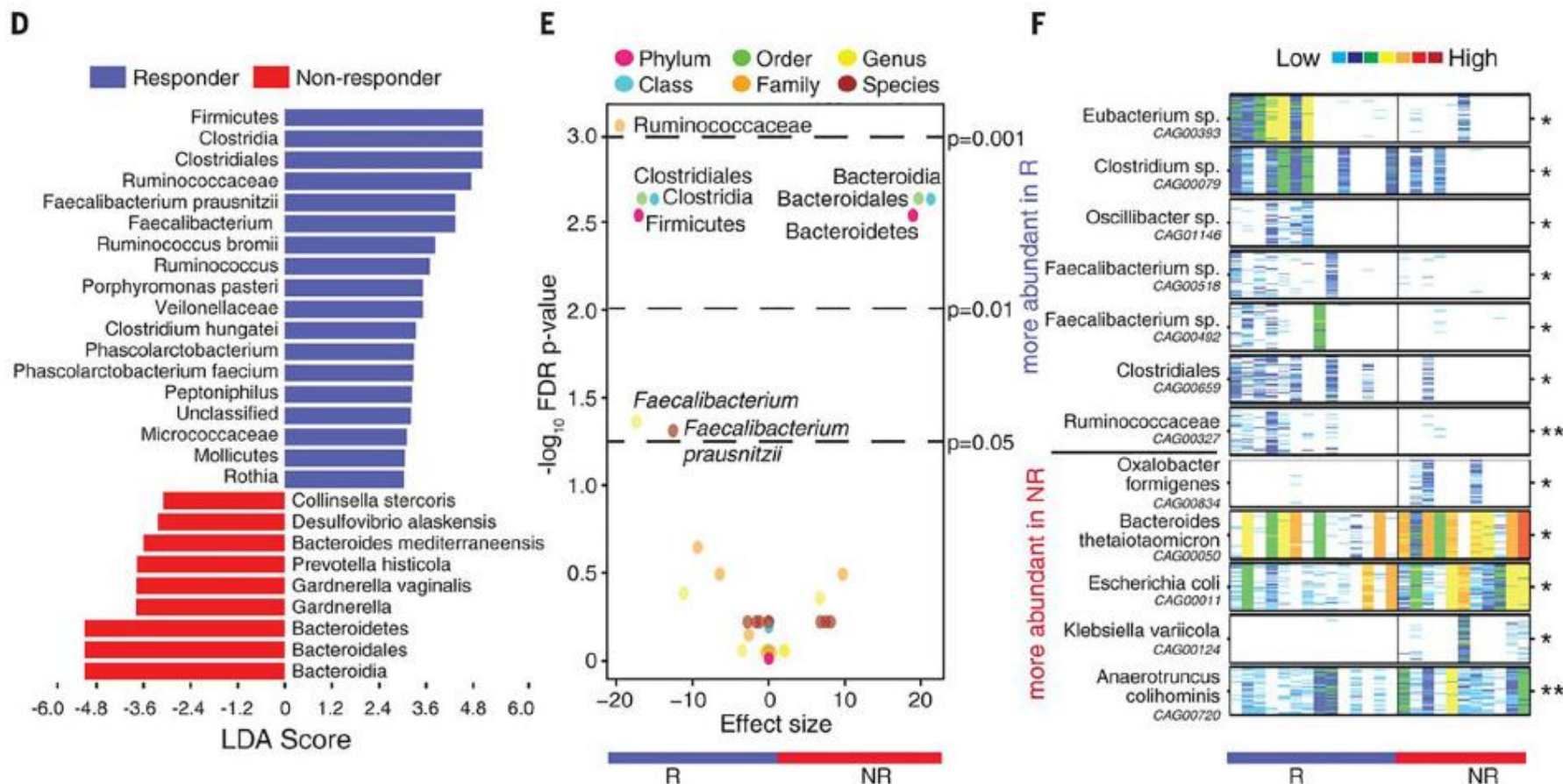
The commensal microbiome is associated with anti-PD-1 efficacy in metastatic melanoma patients.

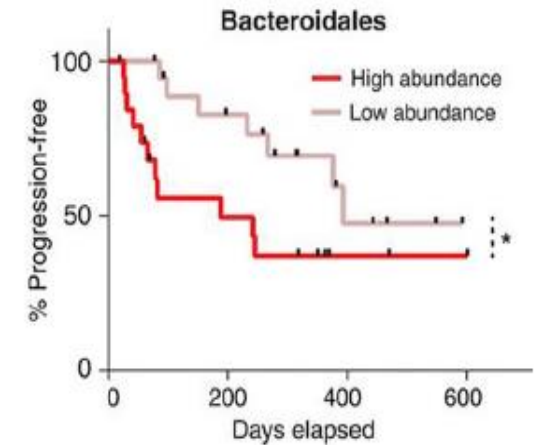
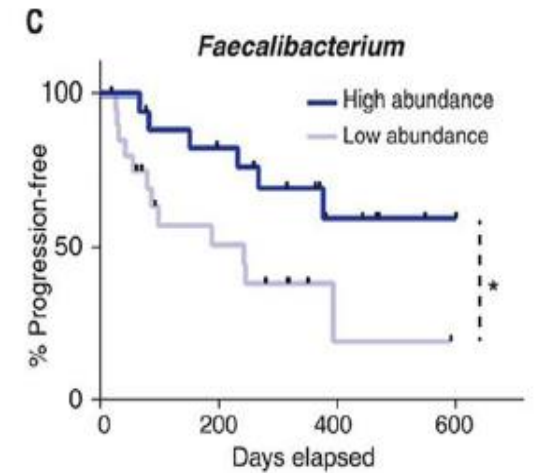
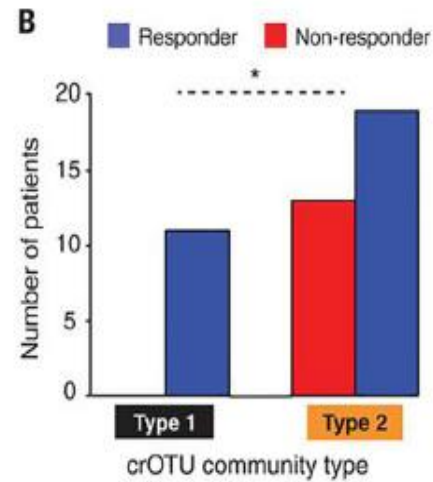
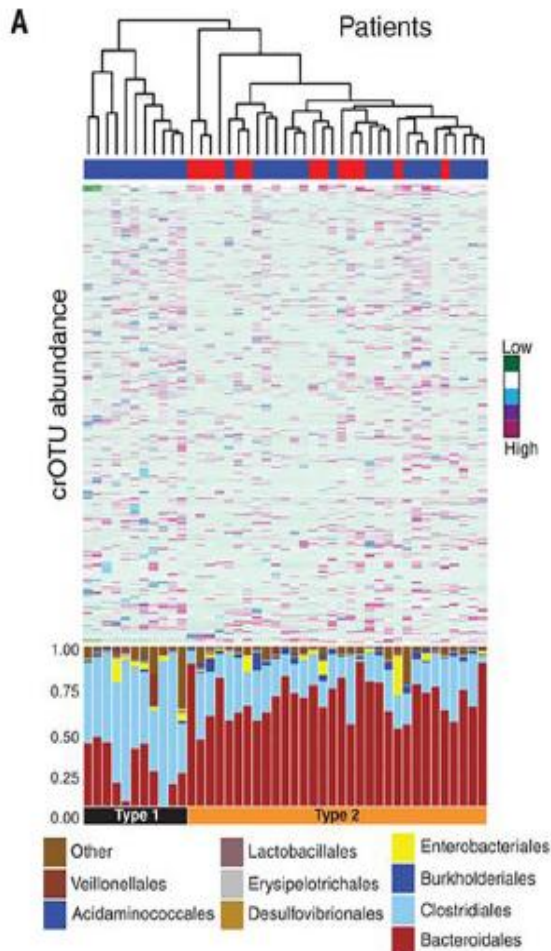
Matson V¹, Fessler J¹, Bao R^{2,3}, Chongsuwat T⁴, Zha Y⁴, Alegre ML⁴, Luke JJ⁴, Gajewski TF^{1,4}.

Gopalakrishnan et al.

Page 14









INDEPENDENT

👍 BEĞEN

News

A pair of glasses were left on the floor at a museum and everyone mistook it for art

The teen behind the hoax had similar success with a baseball cap and a bin

Ekleyen: Christopher Hooton
26 Mayıs 2016

Several visitors to the San Francisco Museum of Modern Art this week were fooled into thinking a pair of glasses set on the floor by a 17-year-old prankster was a postmodern masterpiece.

“Upon first arrival we were quite impressed with

Cardiovascular
disease

Liver
disease

Numerous factors
are influencing
complex gearin

- Lifestyle
- Food
- Immune prim
- Host metabol
signalling

- Anxiety
- Depression
- Autism
- Stress
- Addiction

diabetes
ulin resistance

Obesity

e inflammation

gy & Hepatology



İNTESTİNAL MİKROBİYOTA BESLENME



Prevotella : karbohidrat ve basit şekerler ile ilişkili

Bacteroides hayvansal proteinler, doymuş yağlar ile ilişkil

MİKROBİYOM EVRİMİ

İnsan ve mikrobiyota arasında kültürel değişimlere bağlı zaman içerisinde değişimler mevcut.

The Sushi Gene!



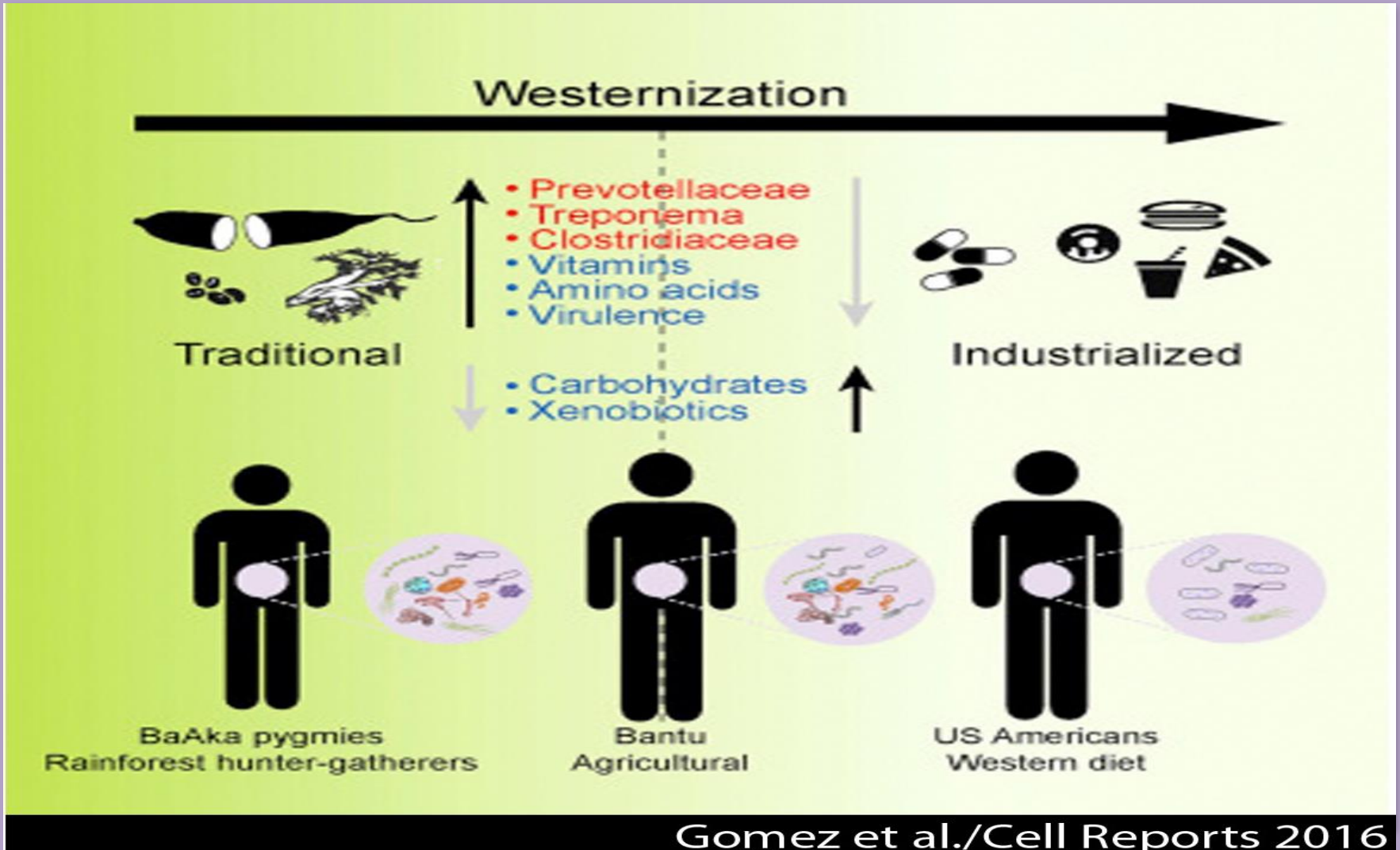
İNTESTİNAL MİKROBİYOTA BESLENME

Finally settling down to my vegan, gluten free, soy free, antibiotics free, raw, non GMO, organic, fat free, low carb meal!





İNTESTİNAL MİKROBİYOTA BESLENME



FERMENT ÜRÜNLER BESİN PİRAMİDİNDE OLMALI-2017

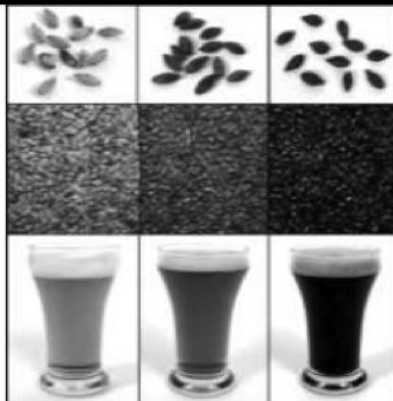
Scientist wants fifth food group added to Canada's Food Guide



By Jennifer Bieman, The London Free Press
Sunday, August 20, 2017 9:33:34 EDT PM



FERMENTE GIDALAR-2017

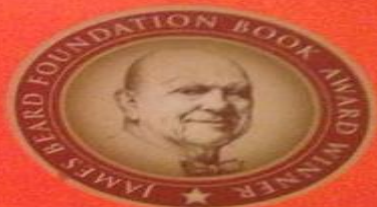


New York Times Bestseller

SANDOR ELLIX KATZ

Foreword by Michael Pollan

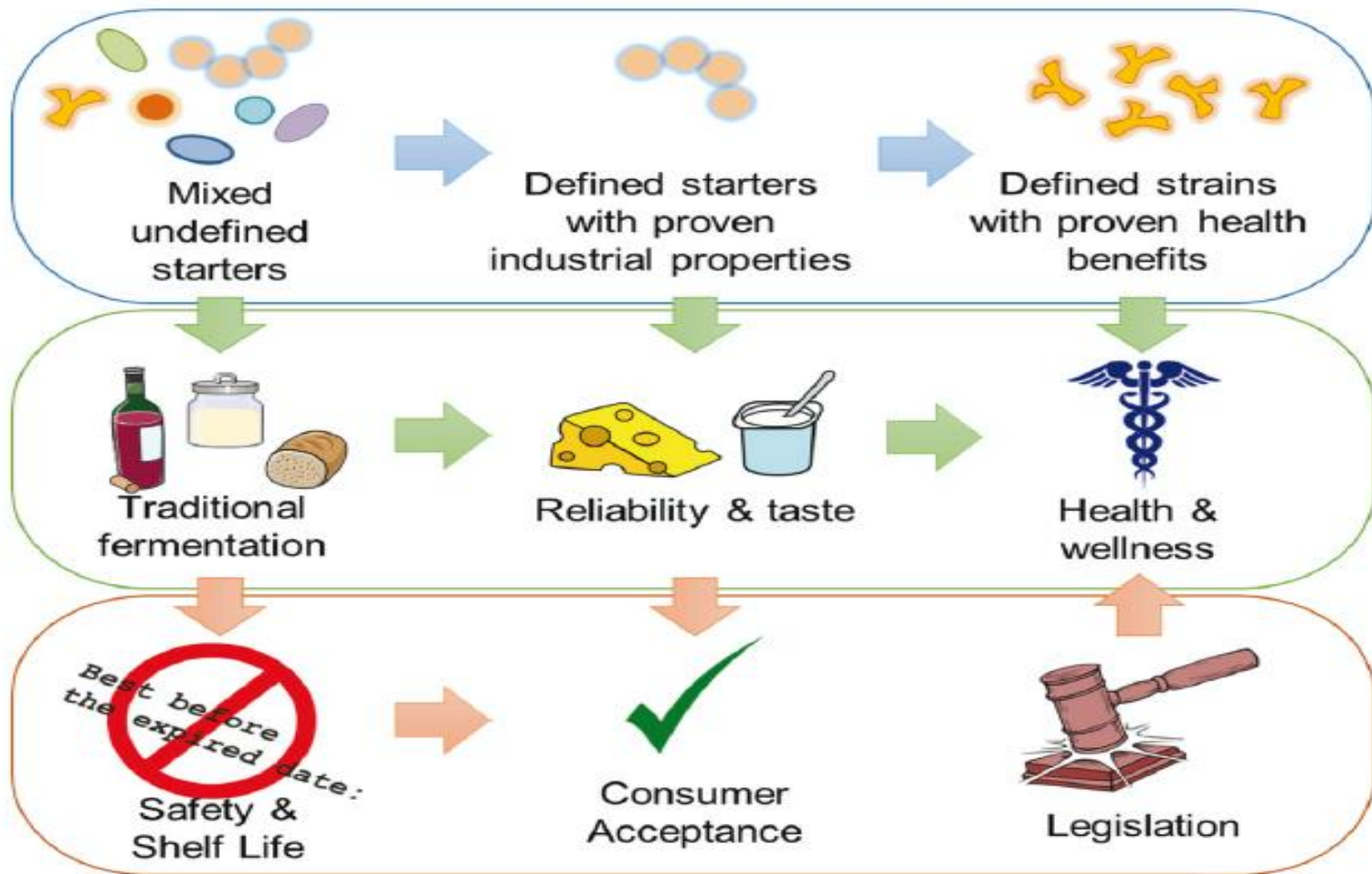
The **ART** *of*
FERMENTATION



**AN IN-DEPTH EXPLORATION OF ESSENTIAL CONCEPTS
AND PROCESSES FROM AROUND THE WORLD**

*With Practical Information on Fermenting Vegetables,
Fruits, Grains, Milk, Beans, Meats, and More*

FERMENTASYON: EVDE?



BESLENME- MİKROBİYOTA İLİŞKİSİ EK BESİNLERE GEÇİŞ?

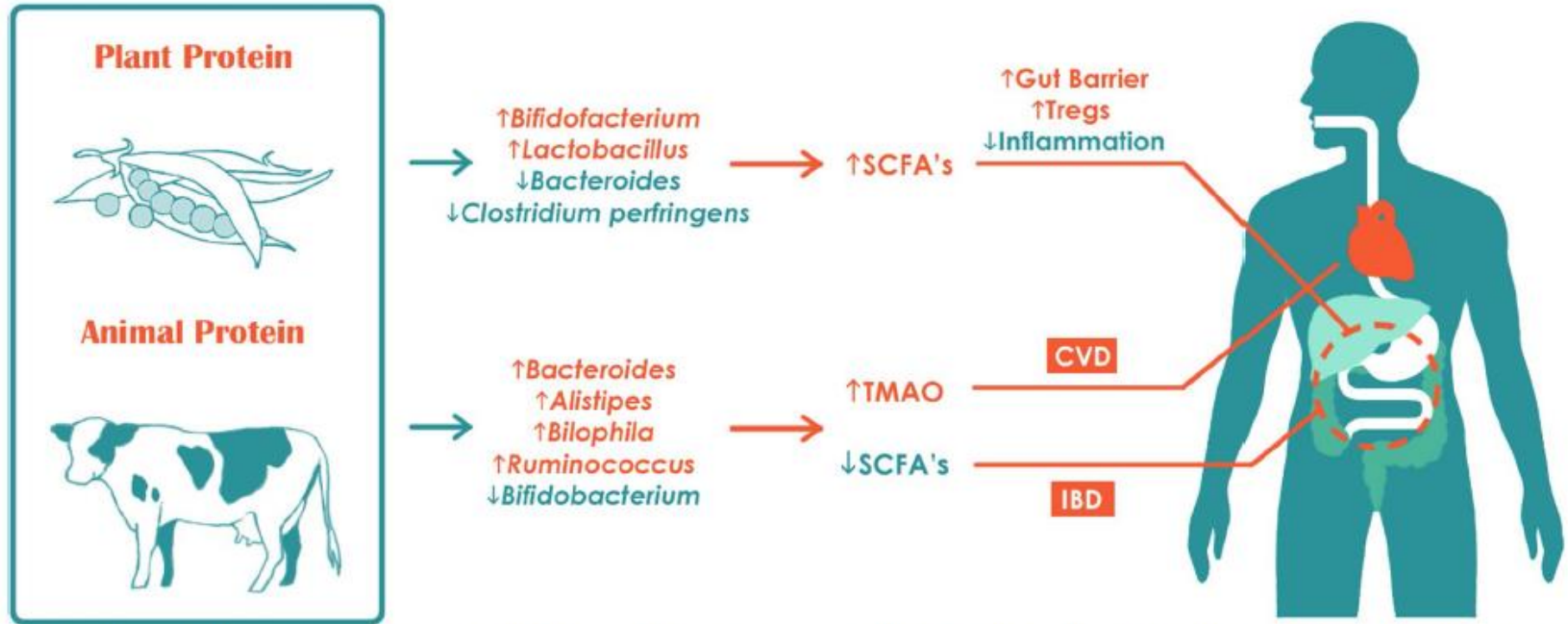


Fig. 2 Impact of dietary protein on intestinal microbiota and health outcomes. SCFA's short chain fatty acids, TMAO trimethylamine N-oxide, Tregs T regulatory cells, CVD cardiovascular disease; IBD inflammatory bowel disease

Table 3 Effects of fats on gut microbiota

	Lactic acid bacteria ^a	<i>Bifidobacteria</i>	<i>Clostridiales</i>	<i>Bacteroides</i>	<i>Bilophila</i>	<i>Faecalibacterium prausnitzii</i>	<i>Akkermansia muciniphila</i>	References
High fat	↓		↑	↑				[30, 49, 51, 52]
Low fat		↑						[49]
High saturated fat				↑	↑	↑		[26, 49]
High unsaturated fat	↑	↑					↑	[45, 49, 50]

^a Lactic acid bacteria include *Lactobacillus* and *Streptococcus*

BESLENME- MİKROBİYOTA İLİŞKİSİ EK BESİNLERE GEÇİŞ?

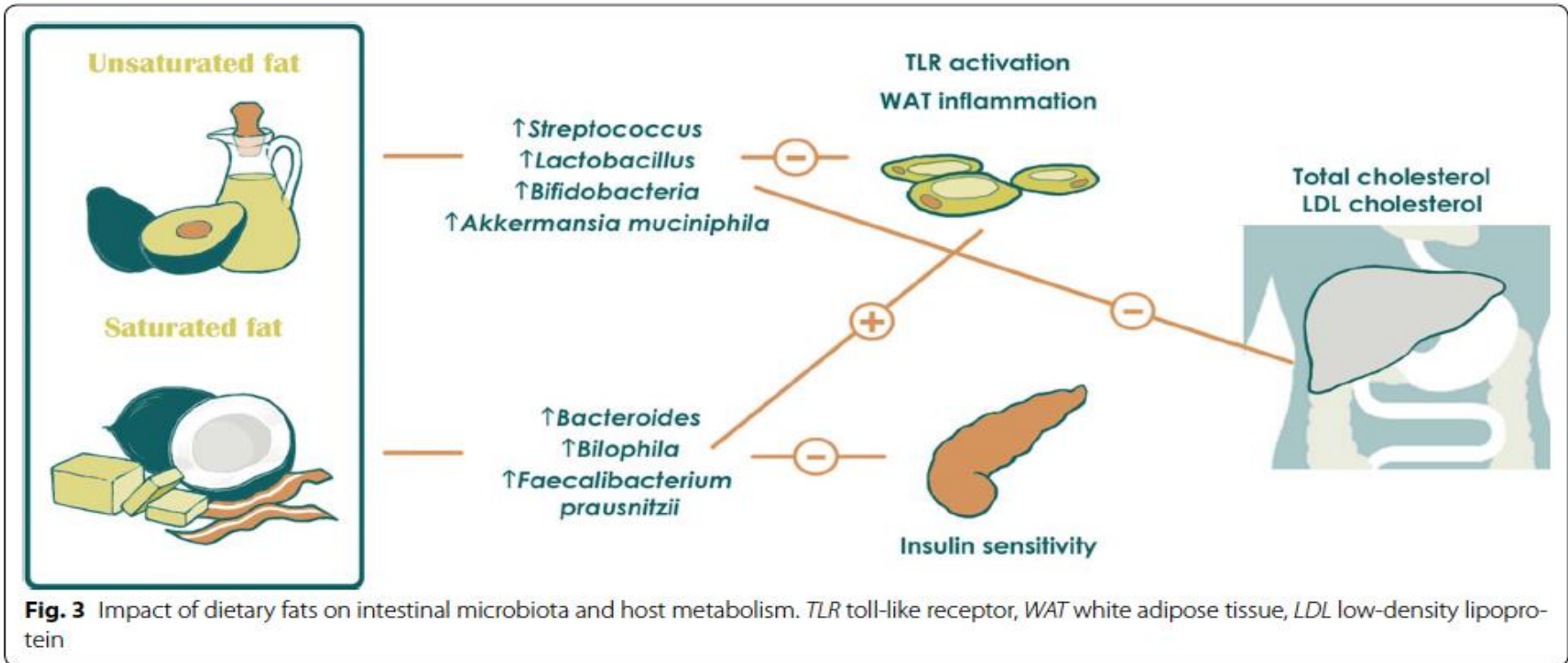


Table 3 Effects of fats on gut microbiota

	Lactic acid bacteria ^a	<i>Bifidobacteria</i>	<i>Clostridiales</i>	<i>Bacteroides</i>	<i>Bilophila</i>	<i>Faecalibacterium prausnitzii</i>	<i>Akkermansia muciniphila</i>	References
High fat	↓		↑	↑				[30, 49, 51, 52]
Low fat		↑						[49]
High saturated fat				↑	↑	↑		[26, 49]
High unsaturated fat	↑	↑					↑	[45, 49, 50]

^a Lactic acid bacteria include *Lactobacillus* and *Streptococcus*

BESLENME- MİKROBİYOTA İLİŞKİSİ EK BESİNLERE GEÇİŞ?

Table 4 Effects of natural and artificial sugar on gut microbiota

	<i>Bifidobacteria</i>	<i>Bacteroides</i>	<i>Clostridia</i>	<i>Lactobacilli</i>	References
Glucose	↑	↓			[55, 56]
Fructose	↑	↓			[55, 56]
Sucrose	↑	↓			[55, 56]
Lactose	↑	↓	↓	↑	[58]
Artificial sweeteners	↓	↑	↓	↓	[59]

Table 5 Effects of non-digestible carbohydrates on gut microbiota

	Bacterial abundance	Gene richness	<i>Lactobacilli</i>	<i>Bifidobacteria</i>	<i>Clostridia</i>	<i>Enterococcus</i>	<i>Roseburia</i>	<i>Eubacteria</i>	<i>Ruminococcus</i>	References
Fiber/prebiotics	↑	↑	↑	↑	↓	↑↓				[30, 64–66, 69–76]
Resistant starch	↑	↑	↑	↑			↑	↑	↑	[3, 30, 67–69, 72–74]

Arrow thickness corresponds to relative number of studies supporting the relationship

BESLENME- MİKROBİYOTA İLİŞKİSİ

EK BESİNLERE GEÇİŞ?

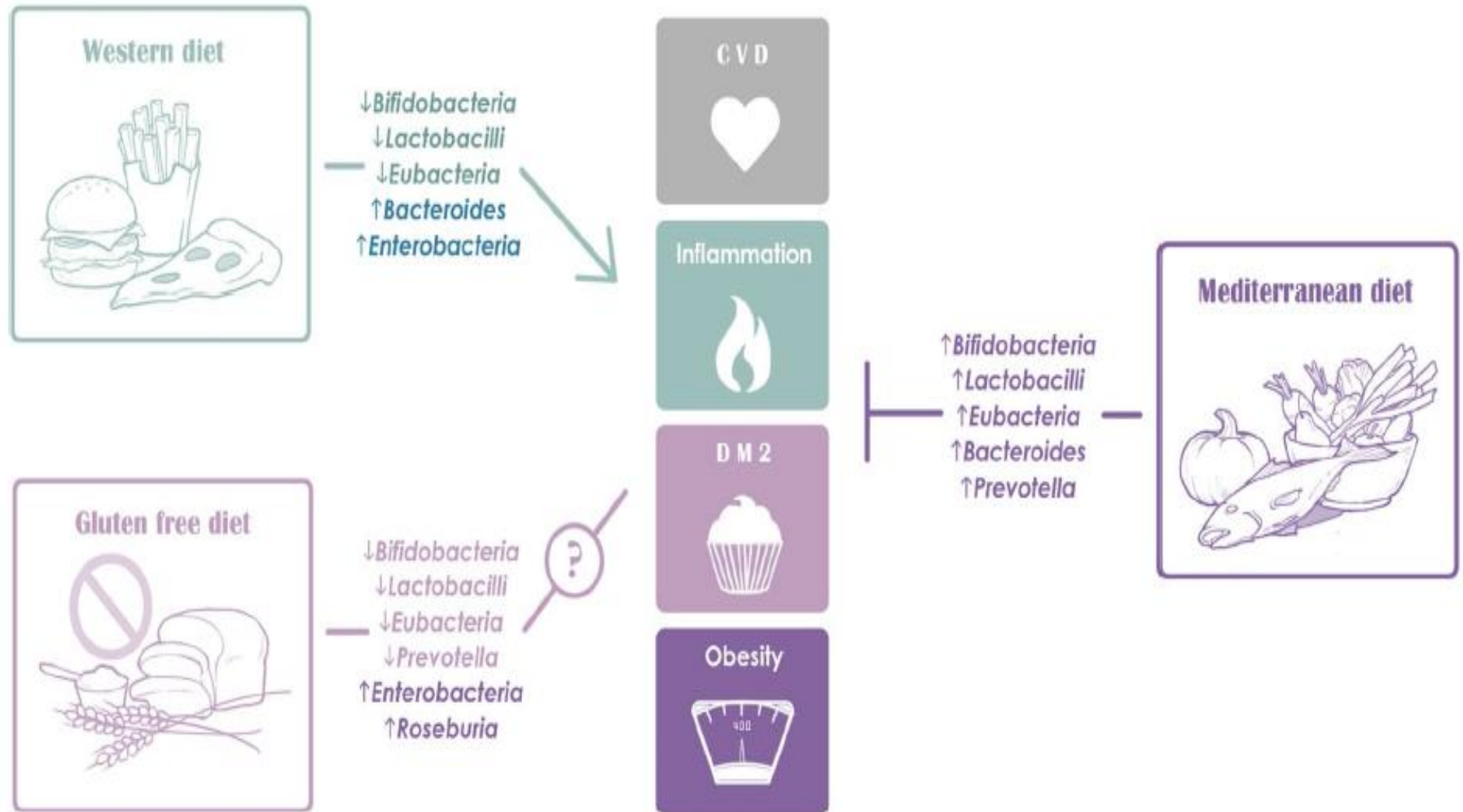


Fig. 4 Impact of popular diets on intestinal microbiota and cardiometabolic disease. CVD cardiovascular disease, DM2 type 2 diabetes mellitus

Vegan? Vejetaryen? Omnivor? Hangisi Mikrobiyota için daha iyi?



Assessing the Influence of Vegan, Vegetarian and Omnivore Oriented Westernized Dietary Styles on Human Gut Microbiota: A Cross Sectional Study

OPEN ACCESS

Carmen Losasso^{1†}, Ester M. Eckert^{2†}, Eleonora Mastrorilli¹, Jorg Villiger³, Marzia Mancin¹, Ilaria Patuzzi^{1,4}, Andrea Di Cesare^{2,5}, Veronica Cibi¹, Federica Barrucci¹, Jakob Pernthaler³, Gianluca Corno² and Antonia Ricci¹*

Edited by



Eur J Pediatr (2013) 172:459–464
DOI 10.1007/s00431-012-1903-5

ORIGINAL ARTICLE

The effect of a multispecies synbiotic mixture on the duration of diarrhea and length of hospital stay in children with acute diarrhea in Turkey: Single blinded randomized study

Ener Cagri Dinleyici • Nazan Dalgic • Sirin Guven •
Metehan Ozen • Ates Kara • Vefik Arica
Ozge Metin-Timur • Mesut Sancar • Zafer Kurugol •
Gonul Tanir • Didem Ozturk • Selime Aydogdu •
Murat Tutanc • Makbule Eren • Yvan Vandenplas

J Pediatr (Rio J). 2015;91(4):392–396



ELSEVIER

Jornal de
Pediatria

www.jped.com.br



ORIGINAL ARTICLE

Lactobacillus reuteri DSM 17938 shortens acute infectious diarrhea in a pediatric outpatient setting[☆]



Ener Cagri Dinleyici^{a,*}, Nazan Dalgic^b, Sirin Guven^c, Ozge Metin^d, Olcay Yasa^e,
Zafer Kurugol^f, Ozden Turel^g, Gonul Tanir^d, Ahmet Sami Yazar^c, Vefik Arica^h,
Mesut Sancarⁱ, Adem Karbuz^h, Makbule Eren^j, Metehan Ozen^h, Ates Karaⁱ,
Yvan Vandenplas^k

Beneficial Microbes, 2015 online

ARTICLE IN PRESS



Wageningen Academic
Publishers

Saccharomyces boulardii CNCM I-745 reduces the duration of diarrhoea, length of emergency care and hospital stay in children with acute diarrhoea

E.C. Dinleyici^{1*}, A. Kara², N. Dalgic³, Z. Kurugol⁴, V. Arica⁵, O. Metin⁶, E. Temur⁷, O. Turel⁸, S. Guven⁹, O. Yasa¹⁰,
S. Bulut⁴, G. Tanir⁶, A.S. Yazar⁹, A. Karbuz⁵, M. Sancar¹¹, M. Erguven¹⁰, G. Akca³, M. Eren¹², M. Ozen¹³ and
Y. Vandenplas¹⁴

Dinleyici et al.

RESEARCH

Time series analysis of children's microbiota suffering from an acute infectious diarrhea, and their recovery after *Saccharomyces boulardii* probiotic administration

Ener Cagri Dinleyici^{1†}, Daniel Martinez-Martinez^{2†}, Ates Kara³, Adem Karbuz⁴, Nazan Dalgic⁵, Ozge Metin⁶, Ahmet Sami Yazar⁷, Sirin Guven⁷, Zafer Kurugol⁸, Ozden Turel⁹, Mehmet Kucukkoc⁹, Olcay Yasa¹⁰, Makbule Eren¹, Metehan Ozen¹¹, Yvan Vandenplas¹² and Andrés Moya^{2,13,14*}



FIGURE CAPTIONS

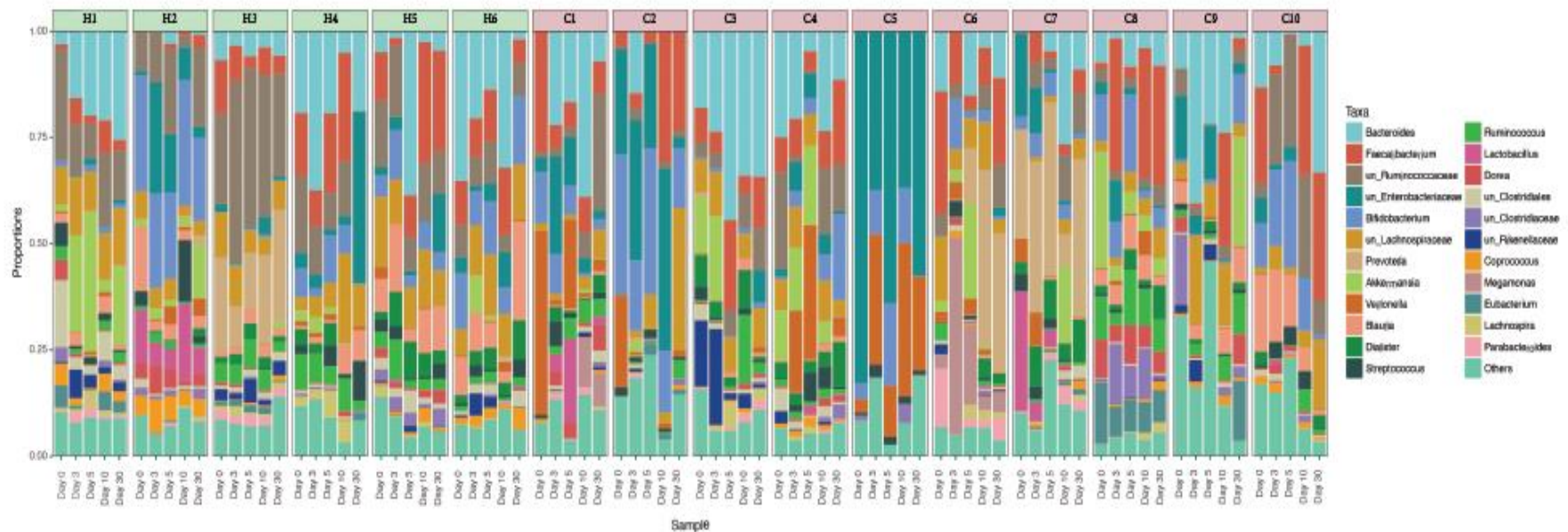
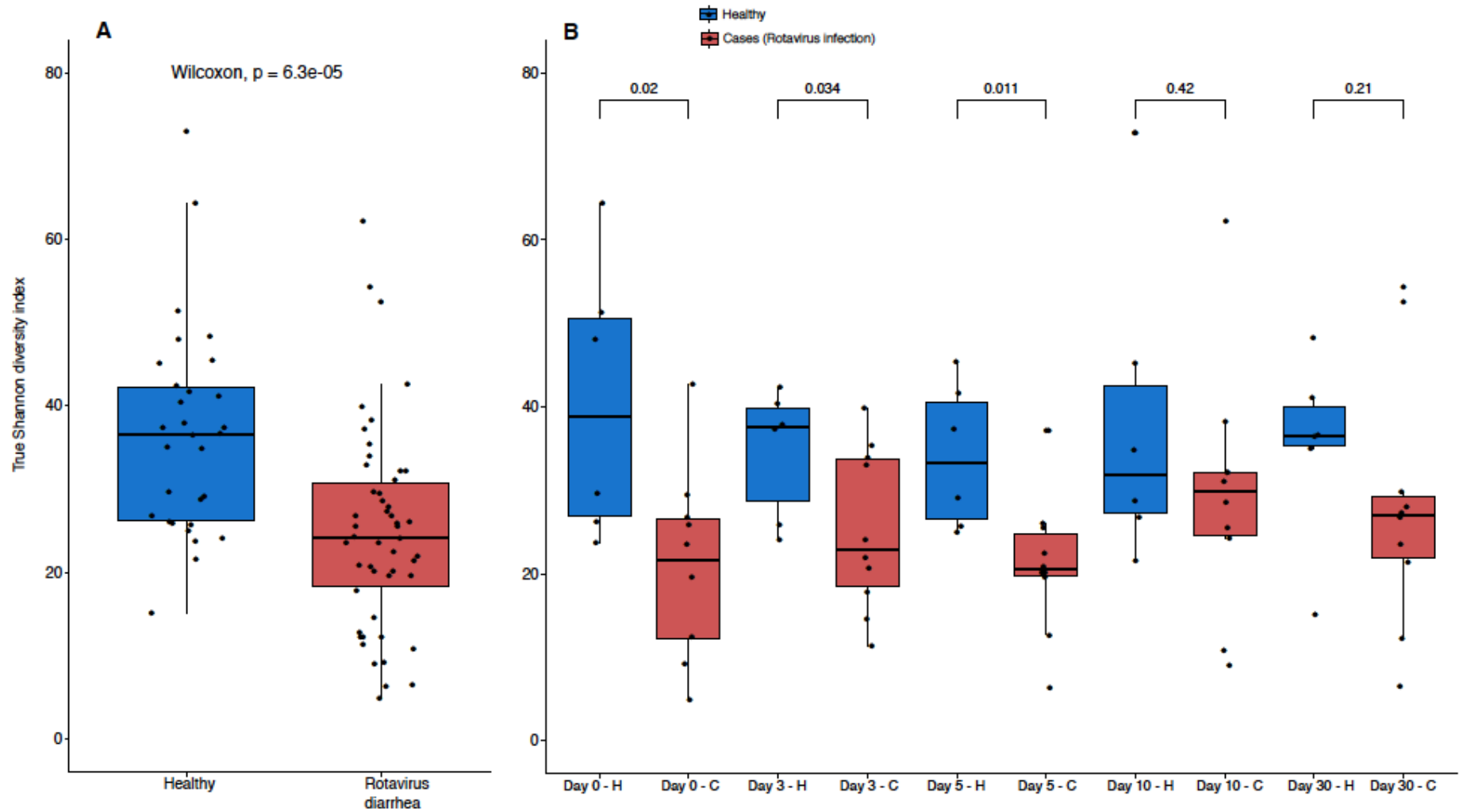


Figure 1. Relative abundances of gut microbiota in every individual. Taxonomic relative abundances at genus level of each individual, separated per day of sampling. Healthy children (H1 to H6) are marked in green, and cases (C1 to C10) are marked in red. Only the 25 most abundant OTUs overall were represented. The less abundant OTUs were joined into the *Others* group.

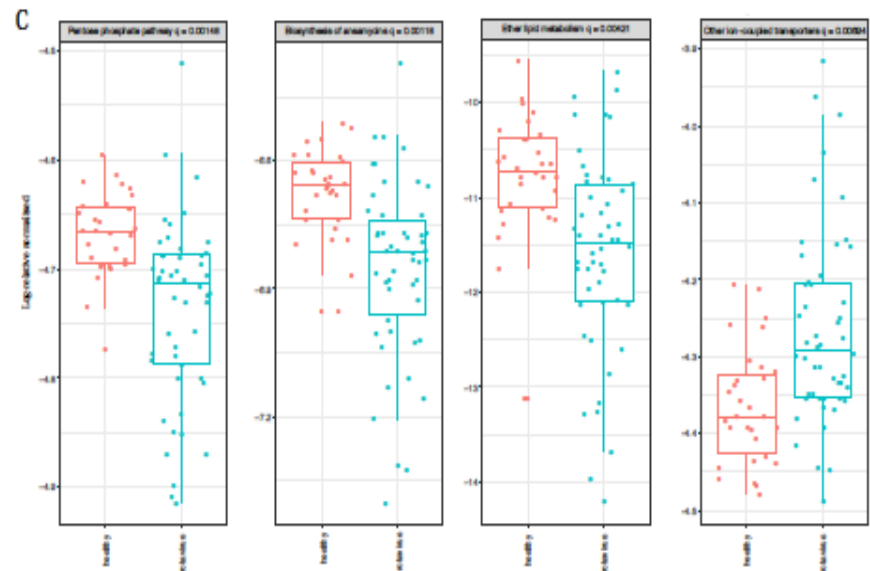
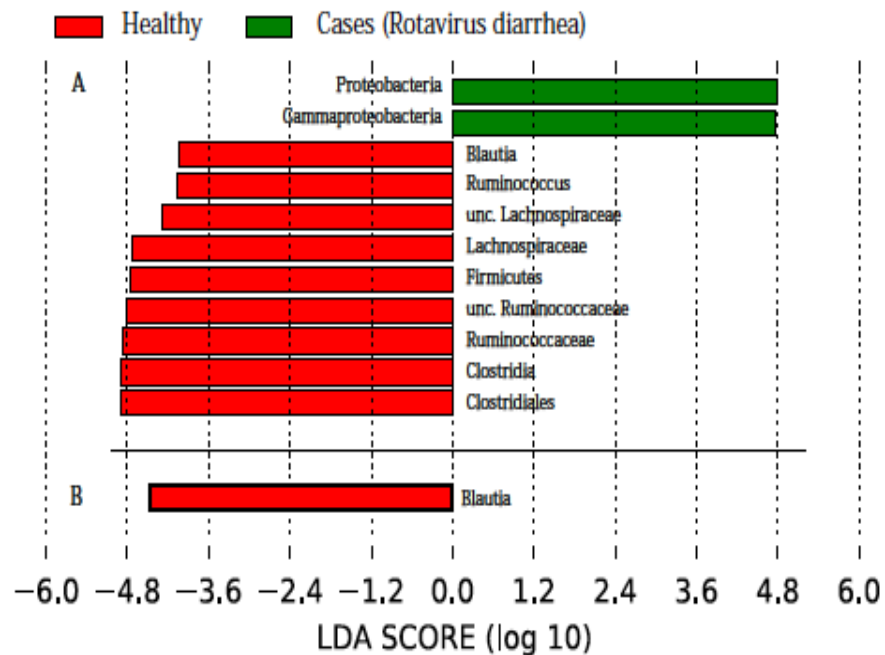
FACID STUDY (Dinleyici et al.)



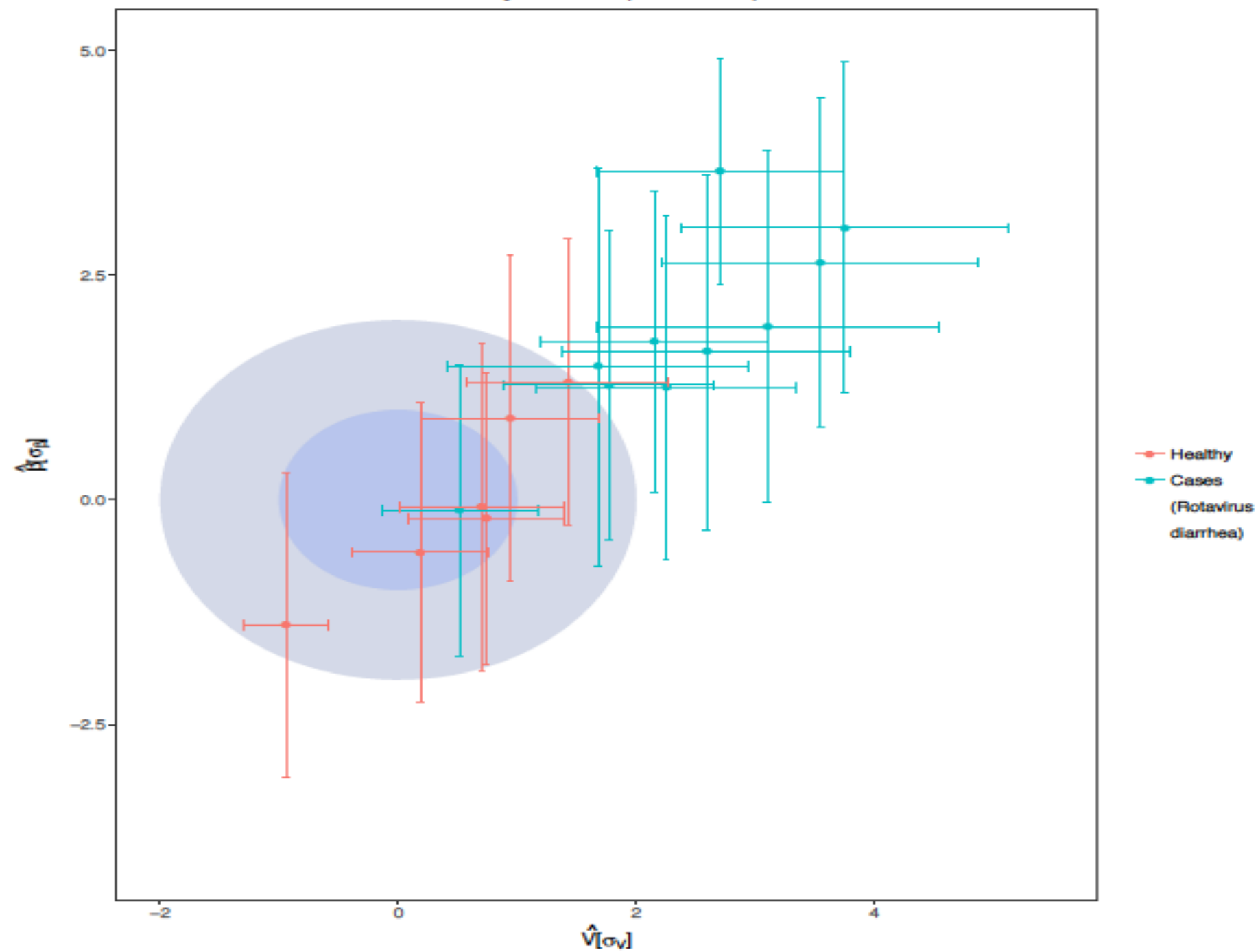
FACID STUDY (Dinleyici et al.)

Dinleyici et al.

Microbiota in acute diarrhea



Taylor's Law paramter space



ANNE SÜTÜ MİKROBİYOTA ÇALIŞMASI-1

- Eskişehir Osmangazi Üniversitesi ve Medeniyet Üniversitesi
- 150 anne**
- 7.gün ve 30-45.günde anne sütü toplandı.
- Term SVY, Term C/S, preterm, SGA, LGA/diabetik anne bebeği
- DNA ekstraksiyonları tamamlandı (Kasım 2017)
- Whole genome sequencing (İspanya, Andreas Moya) (Ocak-2018)
- BAKTERİYEL MİKROBİYOTA
- VİRAL MİKROBİYOTA
- FUNCTIONAL METAGENOMICS

*Eskişehir Osmangazi Üniversitesi BAP desteği

ANNE SÜTÜ MİKROBİYOTA ÇALIŞMASI-2

- Eskişehir Osmangazi Üniversitesi
- 20 anne**
- 15-45.gününde doğum sonrası
- Emzirme başlangıcı, 10.dakika ve sonlanmasında
- 60 anne sütü örneği

- DNA ekstraksiyonları tamamlandı (Kasım 2017)
- Whole genome sequencing (İspanya, Andreas Moya) (Ocak-2018)
- Foremilk-Hindmilk Mikrobiyota ve fonksiyonel metagenomik analizi
 - *Eskişehir Osmangazi Üniversitesi BAP desteği

- Behçet hastalığında oral ve gastrointestinal sistem mikrobiyotası
 - *Olgu alımı devam ediyor.*
- Endometriosisli hastalarda vajinal, endometrium ve gastrointestinal sistem mikrobiyotası
 - *ANALİZ AŞAMASINDA.*
- Multipl sklerozlu hastalarda tanı anında intestinal mikrobiyota analizi
 - *Olgu alımı devam ediyor.*
- Kemik iliği transplantasyonu yapılan hastalarda KIT sonrası mikrobiyota değişiklikleri
 - *Olgu alımı devam ediyor.*
- Doğumsal metabolik hastalıklarda mikrobiyota analiz
 - Etik Kurul Başvurusu
- INFANTİL KOLİK-MİKROBİYOTA-FGID
 - Etik Kurul Başvurusu

Effect of Lactobacillus Reuteri DSM 17938 to Prevent Antibiotic-associated Diarrhea in Children (PEARL)

This study is not yet open for participant recruitment. (see [Contacts and Locations](#))

Verified May 2016 by Eskisehir Osmangazi University

Sponsor:

Eskisehir Osmangazi University

Collaborators:

Hacettepe University
Acibadem University Medical School
Umraniye Education and Research Hospital
Sisli Etfal Training & Research Hospital
Okmeydani Training and Research Hospital
Ege University Medical School
Bezmialem University Medical School
Yuzuncu Yil University
Firat University Medical School
Goztepe Training and Research Hospital
Erzurum Regional Training & Research Hospital
Namik Kemal University

Information provided by (Responsible Party):

Ener Cagri **DINLEYICI**, Eskisehir Osmangazi University

ClinicalTrials.gov Identifier:

NCT02765217

First received: May 2, 2016

Last updated: May 5, 2016

Last verified: May 2016

[History of Changes](#)

PEARL STUDY 2017
Dinleyici EC et al.

ANALYSIS

nature
biotechnology

Towards standards for human fecal sample processing in metagenomic studies

Paul I Costea¹ , Georg Zeller¹, Shinichi Sunagawa^{1,2} , Eric Pelletier^{3–5}, Adriana Alberti³ , Florence Levenez⁶, Melanie Tramontano¹, Marja Driessen¹, Rajna Hercog¹, Ferris-Elias Jung¹, Jens Roat Kultima¹, Matthew R Hayward¹, Luis Pedro Coelho¹ , Emma Allen-Vercoe⁷, Laurie Bertrand³, Michael Blaut⁸, Jillian R M Brown⁹, Thomas Carton¹⁰, Stéphanie Cools-Portier¹¹, Michelle Daigneault⁶, Muriel Derrien¹¹, Anne Druesne¹¹, Willem M de Vos^{12,13} , B Brett Finlay¹⁴, Harry J Flint¹⁵, Francisco Guarner¹⁶, Masahira Hattori^{17,18}, Hans Heilig¹², Ruth Ann Luna¹⁹ , Johan van Hylckama Vlieg¹¹, Jana Junick⁸, Ingeborg Klymiuk²⁰, Philippe Langella⁶, Emmanuelle Le Chatelier⁶, Volker Mai²¹, Chaysavanh Manichanh¹⁶, Jennifer C Martin¹⁵, Clémentine Mery¹⁰, Hidetoshi Morita²², Paul W O'Toole⁹, Céline Orvain³, Kiran Raosaheb Patil¹, John Penders²³, Søren Persson²⁴, Nicolas Pons⁶, Milena Popova¹⁰, Anne Salonen¹³, Delphine Saulnier⁸, Karen P Scott¹⁵, Bhagirath Singh²⁵, Kathleen Slezak⁸, Patrick Veiga¹¹, James Versalovic¹⁹, Liping Zhao²⁶, Erwin G Zoetendal¹², S Dusko Ehrlich^{6,27}, Joel Dore⁶ & Peer Bork^{1,28–30}

When Americans say...	It means...
Awesome	Good
Fabulous	Good
Amazing	Good
Great	Fine
Fine	Bad
OK	Bad
Not so great	Really bad
Challenging	Driving me completely nuts
Hilarious	Unexpected
For sure	Probably
Forever	30 minutes
Let's get coffee sometime	Goodbye; I like you
Let's stay in touch	Goodbye; I don't like you that much
My friend	A person I know
My best friend	A person I know and also like



The NEW ENGLAND JOURNAL *of* MEDICINE

The current shortage of saline solutions demonstrates the profound effects that drug shortages can have on patient care. It is anticipated that the situation will improve in the United States in the coming weeks to months, although hospitals will continue to face shortages of other basic products. In the meantime, a multifaceted approach will be needed to ensure that patients safely get the medications they need.

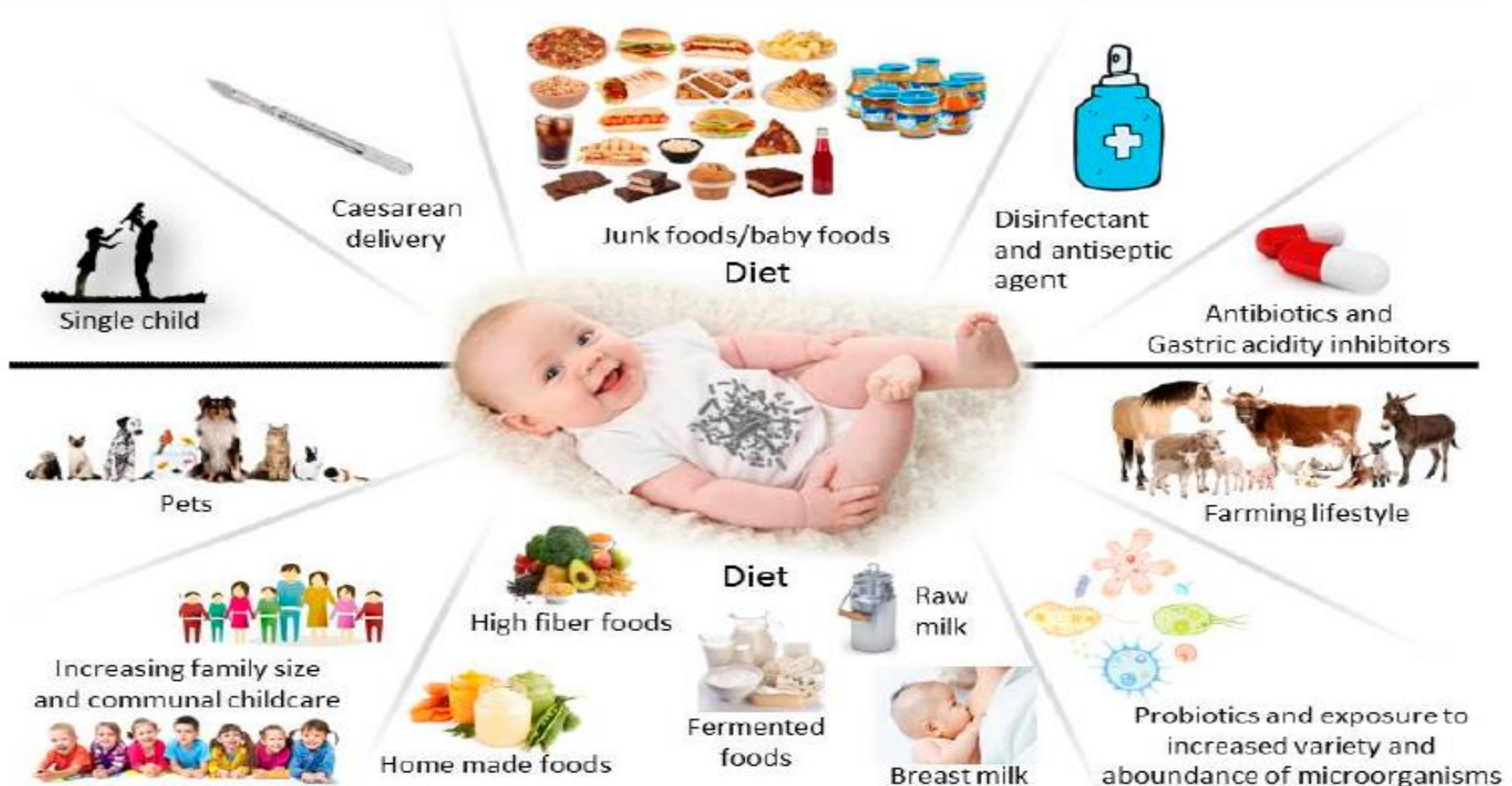
Perspective

Saline Shortages — Many Causes, No Simple Solution

Maryann Mazer-Amirshahi, Pharm.D., M.D., M.P.H., and Erin R. Fox, Pharm.D.

HEDEF SAĞLIKLI MİKROBİYOTA

MICROBIAL RELATED FACTORS INCREASING RISK OF ALLERGY



MICROBIAL RELATED FACTORS REDUCING RISK OF ALLERGY

PROBAGE STUDY GROUP



Universitair
Ziekenhuis
Brussel



GENERALITAT
VALENCIANA



2018...

Kimsenin hayallerini ve umutlarını
senden çalmasına izin verme.



*Excellence is a road, not a destination
Cont'd, 2018. Ener Cagri Dinleyici*