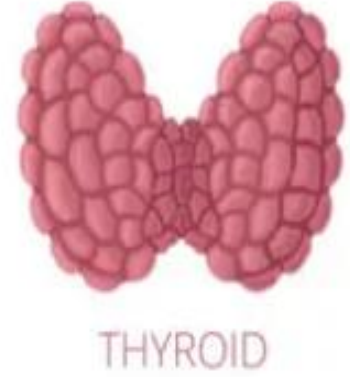




Çocuk Bağırsak Sağlığında FONKSİYONEL TIP

Dr. Nagehan KATIPOĞLU

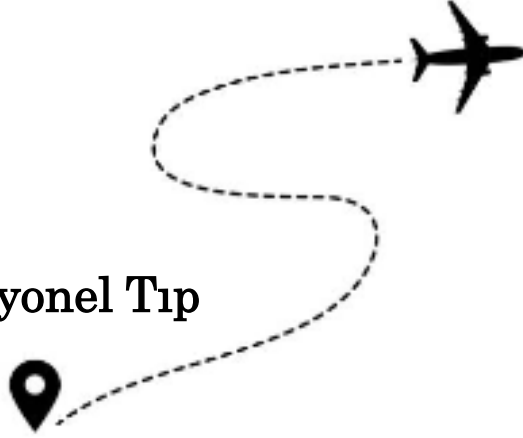
Çocuk Sağlığı ve Hastalıkları Uzmanı



Tekrarlayan enfeksiyonlar
Sık antibiotik kullanımı
Solunum allerjileri
Besin ve soğuk ile anafilaksiler
Eklem ağrıları
Bel ağrıları, sabah tutuklulukları
Lomber herniler operasyonlar
Otoimmün hastalıklar



Fonksiyonel Tıp



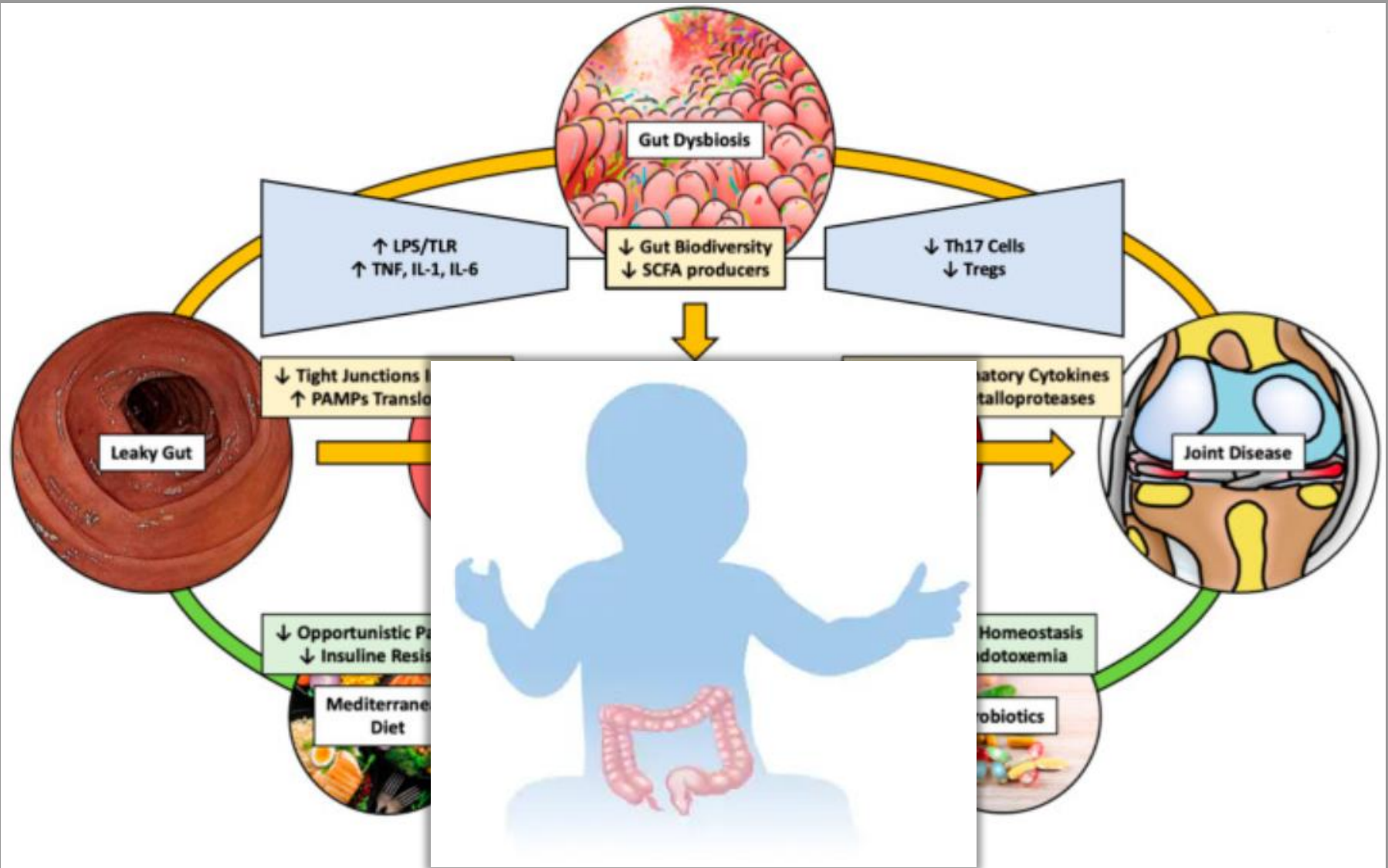
Review > Int J Mol Sci. 2024 Mar 13;25(6):3242. doi: 10.3390/ijms25063242.

Role of the Gut Microbiota in Osteoarthritis, Rheumatoid Arthritis, and Spondylarthritis: An Update on the Gut-Joint Axis

Umile Giuseppe Longo ^{1 2}, Alberto Lalli ^{1 2}, Benedetta Bandini ^{1 2}, Roberto de Sire ^{3 4}, Silvia Angeletti ⁵, Sebastien Lustig ⁶, Antonio Ammendolia ^{7 8}, Nicolaas Cyrillus Budhiparama ⁹, Alessandro de Sire ^{7 8}

Affiliations + expand

PMID: 38542216 PMCID: PMC10970477 DOI: 10.3390/ijms25063242



Observational Study

> Ital J Pediatr. 2020;15;46(1):45. doi: 10.1186/s13052-020-0794-8.

Prenatal and postnatal determinants in shaping offspring's microbiome in the first 1000 days: study protocol

Benedetta Ra
Rosa Maria C
Maria De Ang

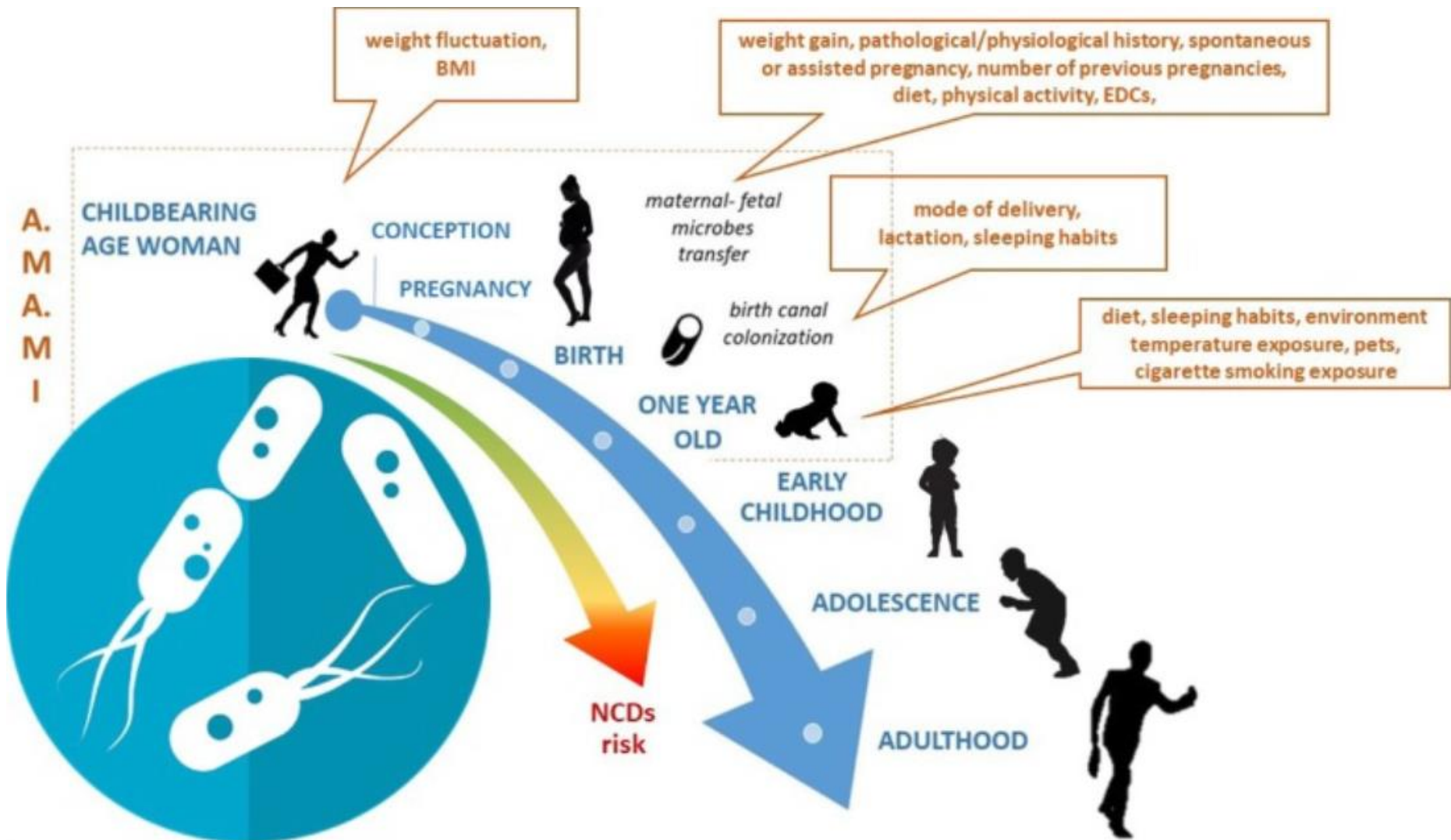
Marina Liso³,
co Vacca⁷,

Affiliations
PMID: 322935

**DEV
FIRSAT
GÜNLERİ**



Dr. Nagehan Katipoğlu
Çocuk Sağlığı Ve Hastalıkları



Bağırsak mikrobiyota çeşitliliği az olsun..

- Tekrarlayan Enfeksiyonlar
- Geniz eti büyümeleri
- Allerjiler (astım, egzema)
- Otoimmün hastalıklar
- Büyüme gelişme geriliği
- Obezite
- DEHB
- Otizm

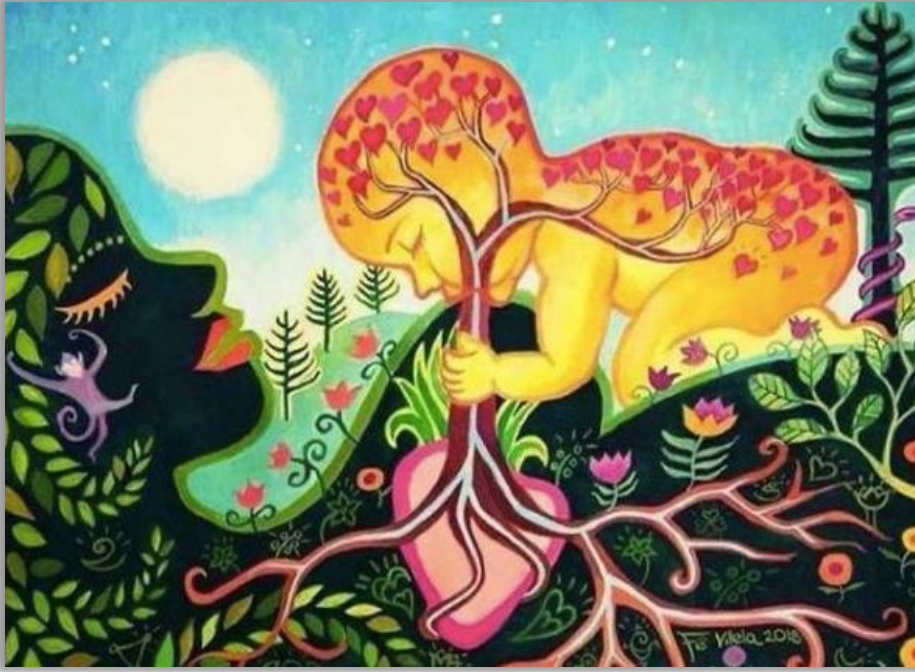


Bağırsak mikrobiyota çeşitliliği az olsun..

- Crohn hastalığı
- Ülseratif kolit
- İrritable bağırsak sendromu
- Kolorektal kanser
- Obezite
- Diyabet
- Kalp damar hastalıkları



Front Microbiol 2016
PMID: 27065999



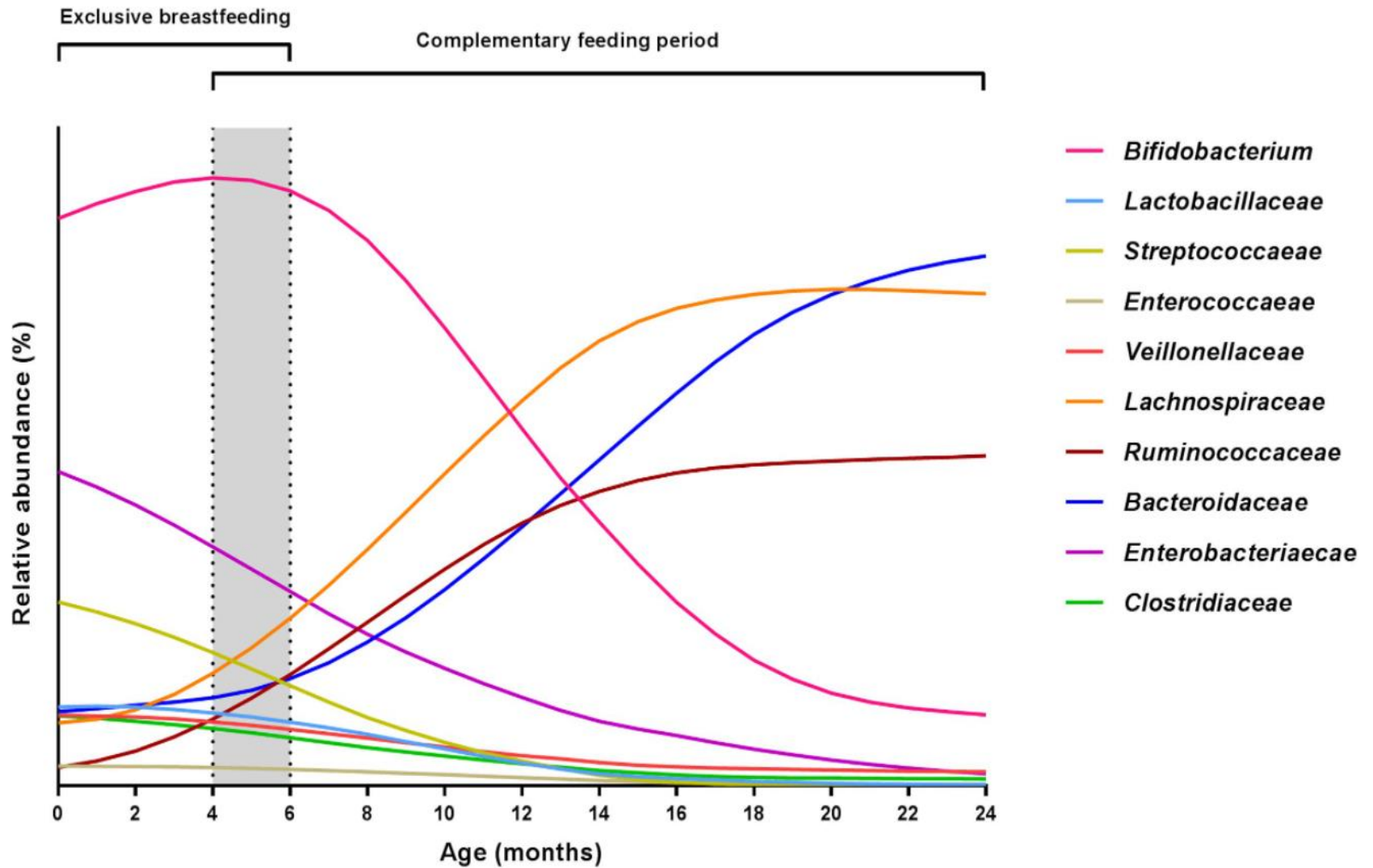
Sinbiyotik Bir Besin olan Anne Sütü

Pre-biyotikler
Anne sütü
Oligosakkaritleri

Pro-biyotikler
Bifidobacterium
Lactobacillus

Bir bebeğin mikrobiyotasının ANA belirleyicisi





Front. Microbiol., 2017
PMID: 28321211

Gebelikteki Beslenme -> Bebekte Damak Hafızası



PMID: 30982867

Diet-Induced Gut Dysbiosis and Leaky Gut Syndrome

Yu-Rim Chae ^{1 2}, Yu Ra Lee ¹, Young-Soo Kim ², Ho-Young Park ^{1 3}

Affiliations + expand

PMID: 38321650 PMCID: PMC11091682 DOI: 10.4014/jmb.2312.12031

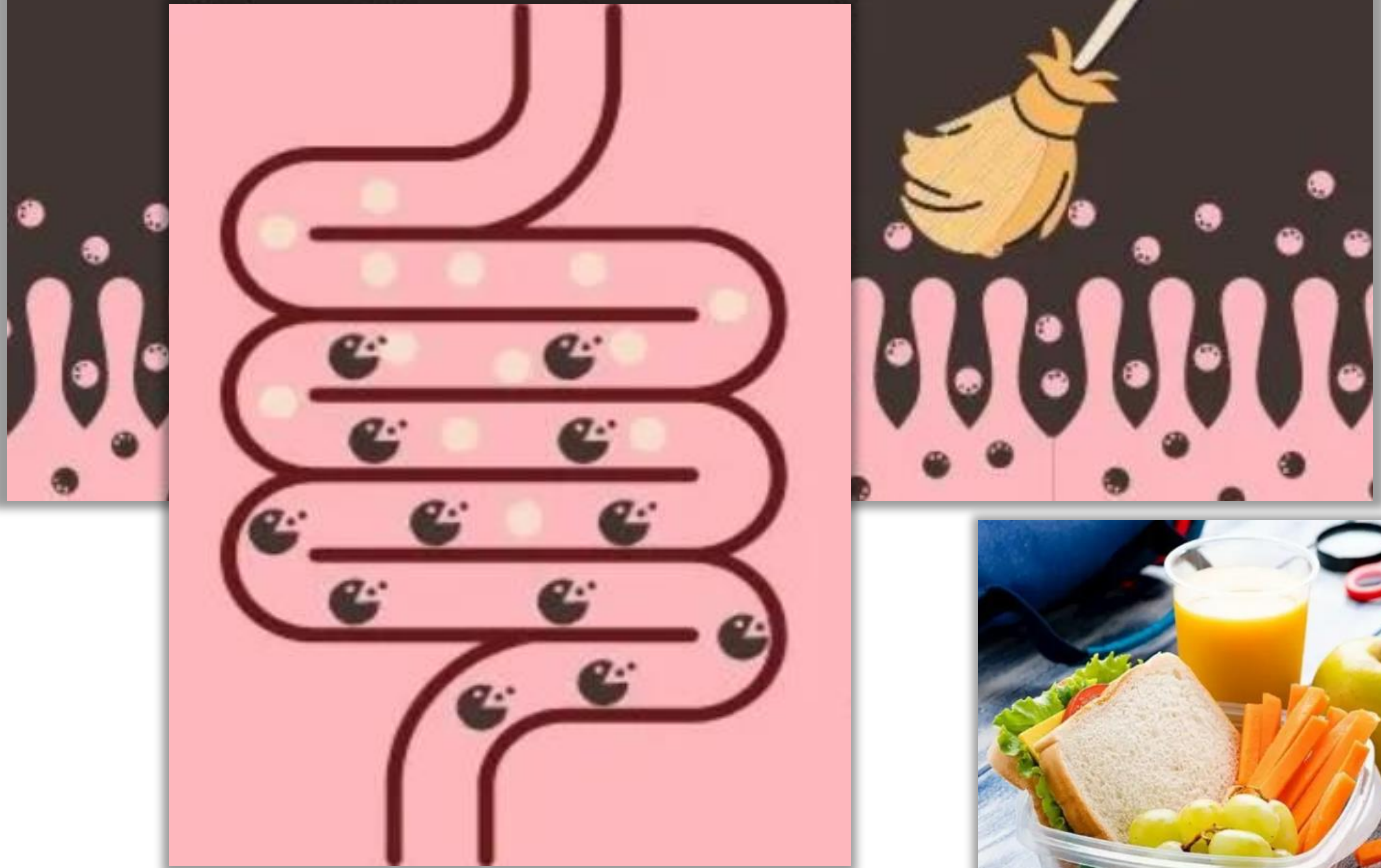
**Besinler bağırsak mikrobiyota değişikliğine neden olarak
Geçirgen bağırsak sendromunun neden olmakta**



**Doymuş Yağ ve Rafine karbonhidrattan zengin diyetlerin
Tight junction proteinlerinin yapışmasını zayıflattığı bulunmuş**



Migrating Motor Complex



Dr. Nagehan Katipoğlu
Çocuk Sağlığı Ve Hastalıkları



**SAĞLIKLI MUTFAK sürecine
Evdeki herkes katılmalı**

Çocuk rafine şekerle ne zaman tanıştı ?



“ŞEKER” Terimi



Sofra Şekeri
(sakkaroz)



Meyve ve sebze
Şekeri (fruktoz)



Süt Şekerleri
(laktoz ve galaktoz)



Baldaki Şeker

Sugar Intake in Infants, Children and Adolescents



This guide has been produced by the European Society for Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN) Committee on Nutrition to provide advice on sugar intake in infants, children and adolescents.

This guide explains what sugar is, current recommendations for sugar intake and outlines the problems of overconsumption that exist. It goes on to explain the taste preference development of children (innate as well as postnatal) and then finally provides recommendations and practical advice on free sugar intake for children as well as the recommended drinks for children of differing ages.

Dünya Sağlık Örgütü
Günlük ilave şeker alımının
Günlük enerjinin %5'ini
Geçmemesini öneriyor

World Health Organization, Guideline:
Sugars intake for adults and children, Geneva, 2015.

Recommended maximum daily free sugar¹ intake (< 5% of energy intake) by age²

Age(yrs)³ Grams

2 - 4

15-16



4 - 7

18-20



7 - 10

22-23



10 - 13

24-27



13 - 15

27-32



15 - 19

28-37

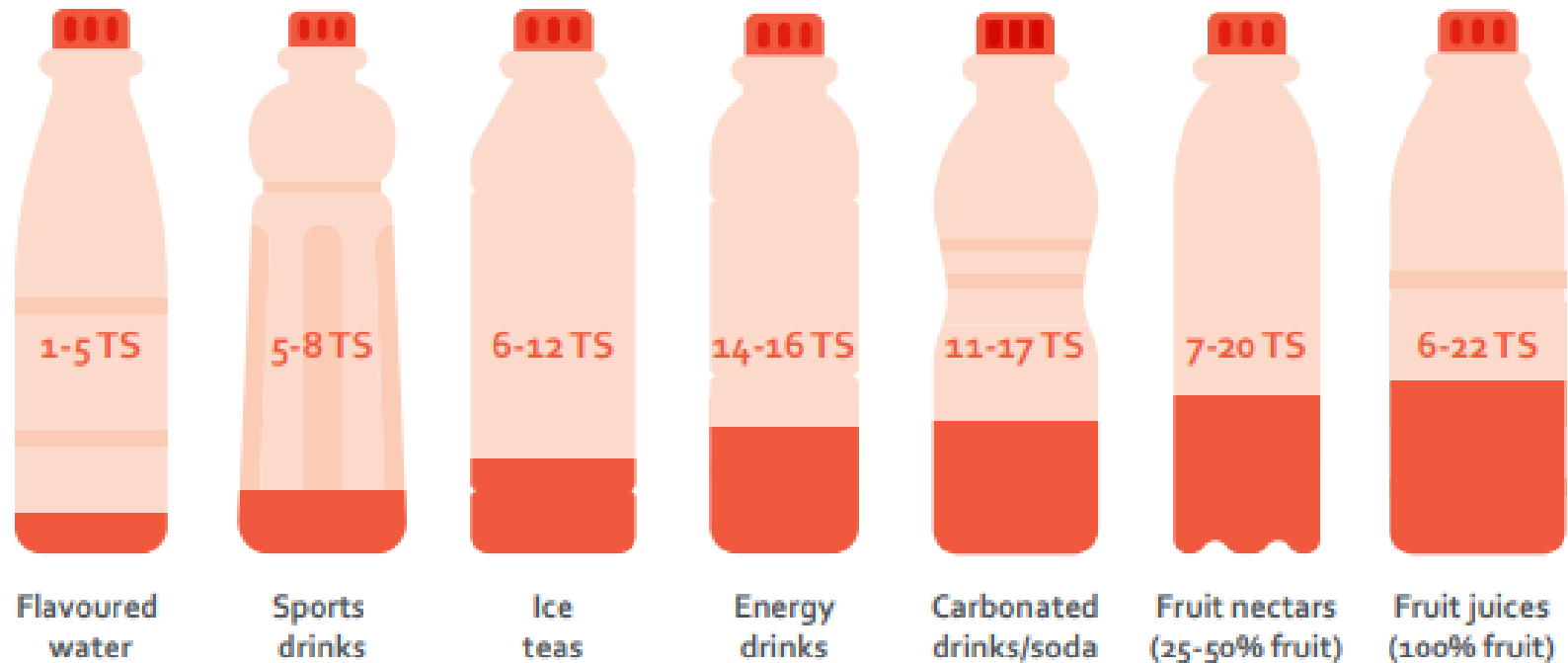


1 teaspoon
=
4g free
sugar



Dr. Nagehan Katipoğlu
Çocuk Sağlığı Ve Hastalıkları

Free sugar content of common sugar sweetened beverages (SSBs) and juices per 500ml⁴



■ TS = teaspoon



1.5 yaş
Büyüme gelişme geriliği
Tekrarlayan bronşiolit , Egzema
Biberonla kola içiyor

Fazla şeker tüketimi

Diş çürükleri



PMID: 28922262

Diş Çürükleri



> [Microorganisms](#). 2024 Jun 18;12(6):1225. doi: 10.3390/microorganisms12061225.

Periodontal Inflammation and Dysbiosis Relate to Microbial Changes in the Gut

Angela R Kamer ¹, Smruti Pushalkar ², Babak Hamidi ¹, Malvin N Janal ³, Vera Tang ¹, Kumar Raghava Chowdary Annam ¹, Leena Palomo ¹, Deepthi Gulivindala ¹, Lidia Glodzik ⁴, Deepak Saxena ⁵

Affiliations + expand

PMID: 38930608 PMCID: PMC11205299 DOI: 10.3390/microorganisms12061225

Periodontal hastalık, disbiyozis zemininde kronik inflamatuvar bir hastalıktır



**Periodontal inflamasyon ve subgingival mikrobiyota
Bağırsak bakteriyel değişikliklerine katkıda bulunuyor**

Gut microbiota and allergic diseases in children

Abstract

The gut microbiota resides in the human gastrointestinal tract, where it plays an important role in maintaining host health. The human gut microbiota is established by the age of 3 years. Studies have revealed that an imbalance in the gut microbiota, termed dysbiosis, occurs due to factors such as cesarean delivery and antibiotic use. It has been suggested that dysbiosis is associated with a higher risk of future onset of allergic diseases. Recent studies in next-generation sequencing methods have revealed the presence of dysbiosis in children with allergic diseases, which increases attention on the relationship between gut microbiota and allergic diseases. However, there is no unified perspective on the mechanistic link between gut microbiota and the onset of allergic diseases. Further studies on correcting dysbiosis and the treatment of allergic diseases are warranted.



Furthermore, the maternal gut microbiota might determine the transcriptional profile of the fetal intestinal microbiota.²⁰ Importantly, children born through vaginal delivery acquire abundant bacteria residing in the vagina and perianal area, which accelerates the establishment of the gut microbiota. According to a study

after weaning, changing towards an adult-like gut microbiota by the age of 3 years. The microbiota established by the age of 3 years is maintained through adulthood. Importantly, dysbiosis that develops during the early stages of life may remain into adulthood.²³

(18) sequencing and found age-dependent changes in the gut microbiota.²² The dominant phylum in the adult gut microbiota was Firmicutes, including Lactobacillales and Clostridiales, while it was Actinobacteria, including Bifidobacteriales, in the gut microbiota of 1-year-olds. The proportion of Actinobacteria decreases after weaning, changing towards an adult-like gut microbiota by the age of 3 years. The microbiota established by the age of 3 years is maintained through adulthood. Importantly, dysbiosis that develops during the early stages of life may remain into adulthood.²³

Therefore, it is important to establish a favorable gut microbiota during infancy.²⁴



Hijyen Hipotezi

Hay fever, hygiene, and household size

David P Strachan

Department of
Epidemiology and
Population Sciences,
London School of
Hygiene and Tropical
Medicine, London
WC1E 7HT

David P Strachan, MRCP,
lecturer in epidemiology

Br Med J 1989;299:1259-60

Hay fever has been described as a "post industrial revolution epidemic," and successive morbidity surveys from British general practice suggest that its

Hijyenik ortam allerji için risk faktörü

paper suggests a possible explanation for these trends over time.

Subjects, methods, and results

I studied the epidemiology of hay fever in a national sample of 17 414 British children born during one week in March 1958 and followed up to the age of 23 years (the National Child Development Study). Three outcomes were investigated: (a) self reported "hay fever during the past 12 months" at age 23; (b) parental

report of "hay fever or allergic rhinitis in the past 12 months" at age 11; (c) parental recall of "eczema in the first year of life" elicited when the child was 7. Cross tabulations were performed with the SAS statistical package, and multiple logistic regression models were fitted with the LR program in the BMDP statistical package.

Of the 16 perinatal, social, and environmental factors studied the most striking associations with hay fever were those for family size and position in the household. The table shows that at both ages hay fever was inversely related to position in the household at age 11 (when it is assumed most families were complete). When prevalence figures were adjusted by multiple logistic regression for other significant determinants of hay fever in this cohort (see table) the associations with numbers of older and younger children in the household persisted. These trends in adjusted prevalence were independent of one another and each was significant ($p < 0.01$, see table), but the trends by number of older children were significantly steeper ($\chi^2 = 11.6$, $df = 1$, $p < 0.01$ at age 11; $\chi^2 = 19.5$, $df = 1$, $p < 0.01$ at age 23). A further analysis of hay fever occurring at 23 by birth

Geniş ailede büyüyen
Kardeş sayısı fazla olan
Küçük kardeşler
DAHA AZ ALLERJİK



Çok sayıda
Epidemiyolojik çalışma
Hijyen hipotezini destekledi

**Çiftlikte büyüyen
Toprakla temas eden
Evlerinde evcil hayvan besleyen
Erken yaşta kreşe başlayan
Daha düşük alerji insidansı**

‘Bağırsak mikrobiyotasındaki köklü değişiklikler döngüde
Çevredeki çeşitli mikroorganizmalara maruz kalmanın
Gelecekte alerjik hastalık geçirme riskinin düşmesine katkı sağlıyor’

PMID: 10051699, 10806155, 9989715

ViRÜS



TEDBİRLERİ



Dr. Nagehan Katipoğlu
Çocuk Sağlığı Ve Hastalıkları

> [Nat Commun](#). 2024 Apr 2;15(1):2830. doi: 10.1038/s41467-024-47176-w.

Incident allergic diseases in post-COVID-19 condition: multinational cohort studies from South Korea, Japan and the UK

Jiyeon Oh ^{# 1}, Myeongcheol Lee ^{# 2 3}, Minji Kim ^{# 2 3}, Hyeon Jin Kim ^{# 2 3}, Seung Won Lee ⁴, Sang Youl Rhee ^{2 5}, Ai Koyanagi ⁶, Lee Smith ⁷, Min Seo Kim ⁸, Hayeon Lee ^{9 10}, Jinseok Lee ^{11 12}, Dong Keon Yon ^{13 14 15 16}

Affiliations + expand

PMID: 38565542 PMCID: [PMC10987608](#) DOI: [10.1038/s41467-024-47176-w](#)



Antibiotics as Major Disruptors of Gut Microbiota

Advances in culture-independent research techniques have led to an increased understanding of the gut microbiota and the role it plays in health and disease. The intestine is populated by a complex microbial community that is organized around a network of metabolic interdependencies. It is now understood that the gut microbiota is vital for normal development and functioning of the human body, especially for the priming and maturation of the adaptive immune system. Antibiotic use can have several negative effects on the gut microbiota, including reduced species diversity, altered metabolic activity, and the selection of antibiotic-resistant organisms, which in turn can lead to antibiotic-associated diarrhea and recurrent *Clostridioides difficile* infections. There is also evidence that early childhood exposure to antibiotics can lead to several gastrointestinal, immunologic, and neurocognitive conditions. The increase in the use of antibiotics in recent years suggests that these problems are likely to become more acute or more prevalent in the future. Continued research into the structure and function of the gut microbiota is required to address this challenge.



Antibiotic prescriptions

Defined daily doses per thousand population per day, selected OECD countries, 2021 (or nearest year)



Source: OECD Health Statistics 2023,
ECDC 2023 (for EU/EEA countries).



ocuklarda Bağırsak Sağlığını Koruyucu Büyüme Hedefi
Sadece Sağlıklı Bir ocukluk Geçirmesi İin Değil

Yıl 2022..

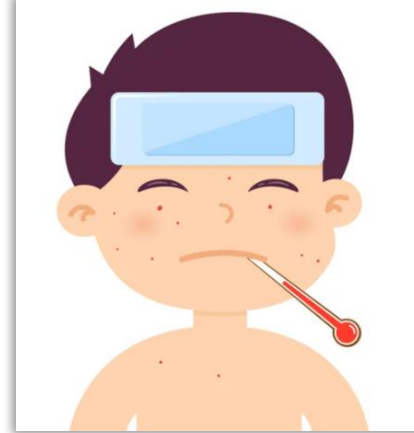
4 yař erkek

Tekrarlayan ateř

4 haftada bir tonsilit

40-41 derece ateř

Acil servis bařvuruları



Son 1 yılda;

3 kez IM penisilin

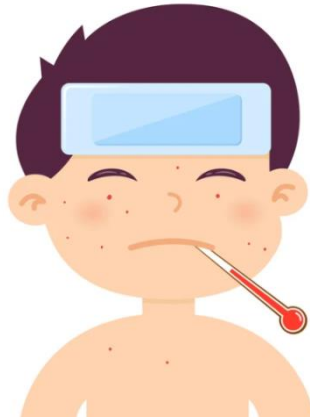
11 kez oral AB

Büyüme gelişme iyi

İřtahi iyi



Periodic
Fever



Aphthous stomatitis



Pharyngitis



Adenitis

Periyodik ateş sendromları;

Mikroorganizmaların uyarısı olmadan
Otoinflamasyonun neden olduğu

Bir grup hastalıktır

Doğal immun yanıtın primer disfonksiyonu

Oto-inflamasyon varsa
Anti-inflamatuvar hayat olmalı



Anti-inflamatur Beslenme



Yeşil yapraklılar
Kırmızı meyveler
Sebze suları
Baharatlar-Tohumlar
Kuruyemişler
Zeytinyağı

Rafine tahıllar
Fast-food
Margarin
Kızartmalar
Paketli gıdalar
İnek Süt





2022 Ocak:

Anti-inflamatuvar
Beslenmeye geiş

2025 Ocak:

3 yıldır takipli

7 yaşımda

2. Sınıf öđrencisi

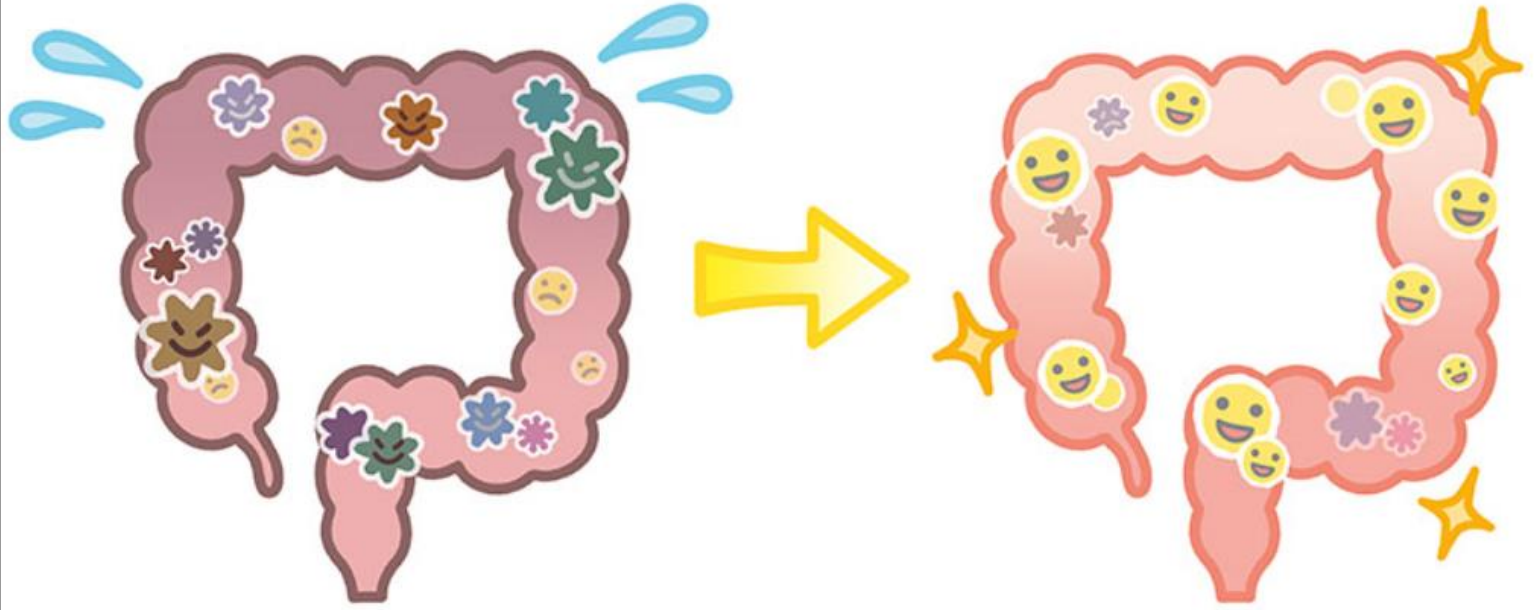
5 yaşımda okula başladı



3 yıldır PFAPA atak yok

Antibiyotik yok

Hastalık yok



THE POWER OF THE FIRST 1,000 DAYS

The right nutrition in the 1,000 days between a woman's pregnancy and her child's second birthday builds the foundation for a child's ability to grow, learn and thrive.

Pregnancy: Pre-pregnancy to birth

Babies developing in the womb draw all of their nutrients from their mother. If mom lacks key nutrients, so will her baby, putting the child's future health and development at risk.



Infancy: Birth to 6 months

Breast milk is superfood for babies. Not only is it the best nutrition an infant can get, but it also serves as the first immunization against illness and disease.



Toddlerhood: 6 months to 2 years

Nutrients from a variety of healthy foods are an essential complement to breast milk to ensure healthy growth and brain development.



The impact of good nutrition early in life can reach far into the future. Children who get the right nutrition in their first 1,000 days:

ARE 10x MORE

likely to overcome the most life-threatening childhood diseases¹



COMPLETE
4.6 more
grades of school²



Go on to earn

21%
more
in wages
as adults³



Are more likely as adults to have
healthier families⁴



SOURCES

1. Save the Children, Nutrition in the First 1,000 Days: State of the World's Mothers 2012.
2. Hoddinott, J. et al "Adult consequences of growth failure in early childhood." American Society for Nutrition, 2013.
3. Ibid.
4. Ibid.

1,000
DAYS

www.thousanddays.org



Dr. Nagehan Katipoğlu
Çocuk Sağlığı Ve Hastalıkları



Çocuklara
Daha iyi bir dünya bırakmak yerine,
Dünyaya
Daha iyi çocuklar bırakalım..