



Çocuk Bağırsak Sağlığında FONKSİYONEL TIP

Dr. Nagehan KATIPOĞLU

Çocuk Sağlığı ve Hastalıkları Uzmanı



Phil Knight





Tekrarlayan enfeksiyonlar

Sık antibiotik kullanımı

Solunum allerjileri

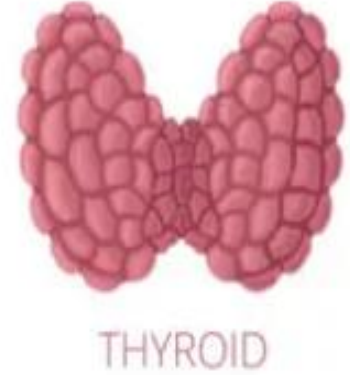
Besin ve soğuk ile anafilaksiler

Eklem ağrıları

Bel ağrıları, sabah tutuklulukları

Lomber herniler operasyonlar

Otoimmün hastalıklar

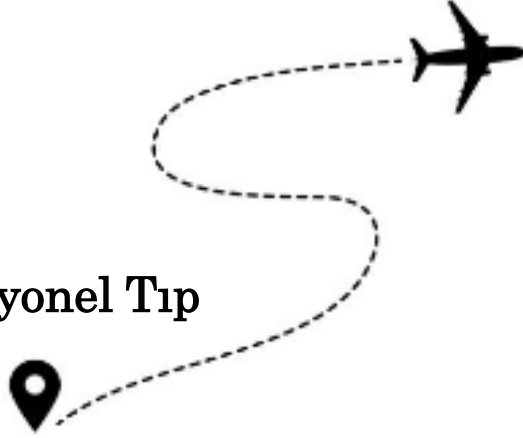




**Analjezikler
Steroidler
Antihistaminikler
Adrenalinler**



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}

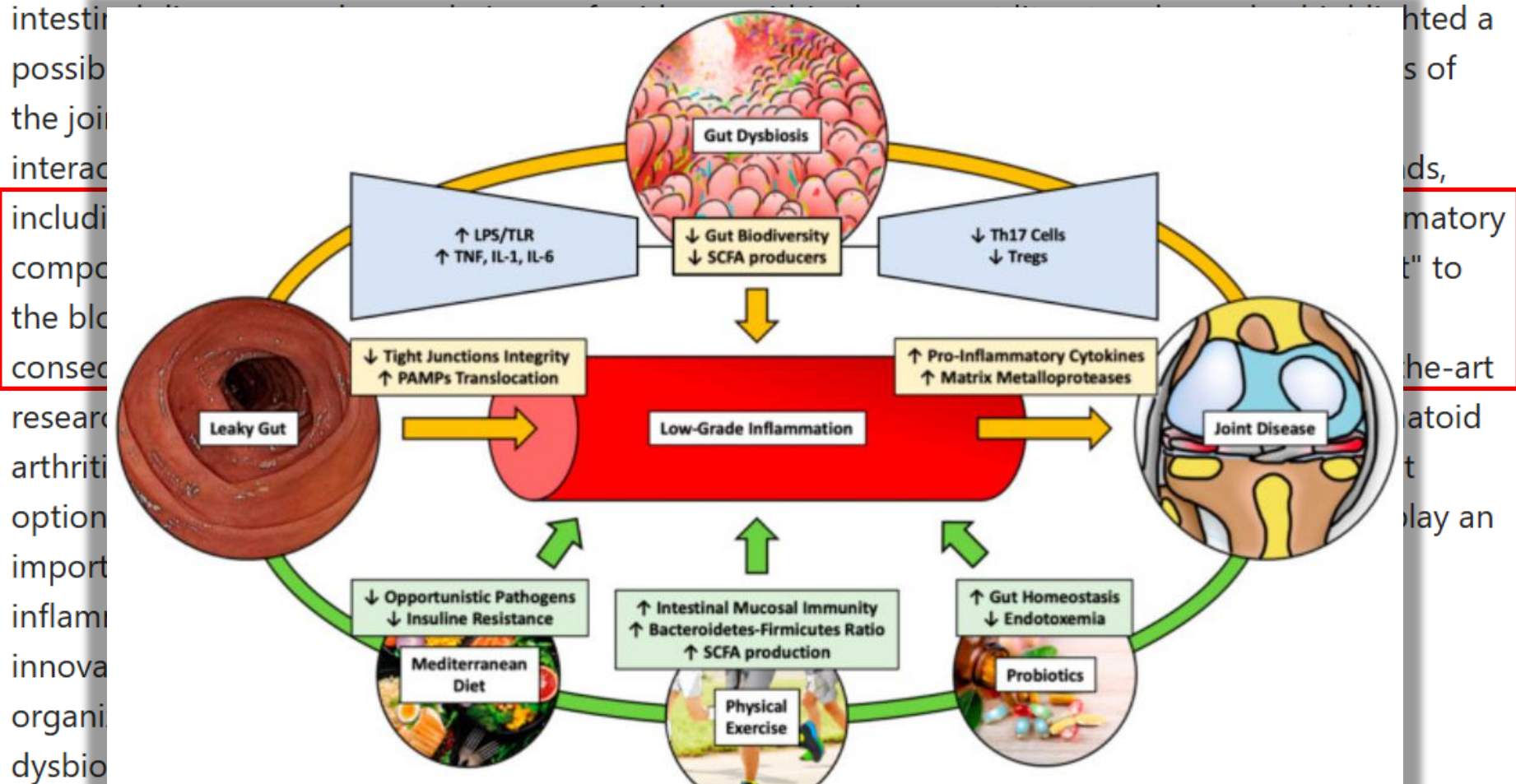
Affiliations + expand

PMID: 38542216 PMCID: [PMC10970477](#) DOI: [10.3390/ijms25063242](#)

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

Abstract

Dysregulation of the gut microbiota and their metabolites is involved in the pathogenic process of



› J Clin Med. 2019 May 16;8(5):693. doi: 10.3390/jcm8050693.

Gut Microbial Composition and Function Are Altered in Patients with Early Rheumatoid Arthritis

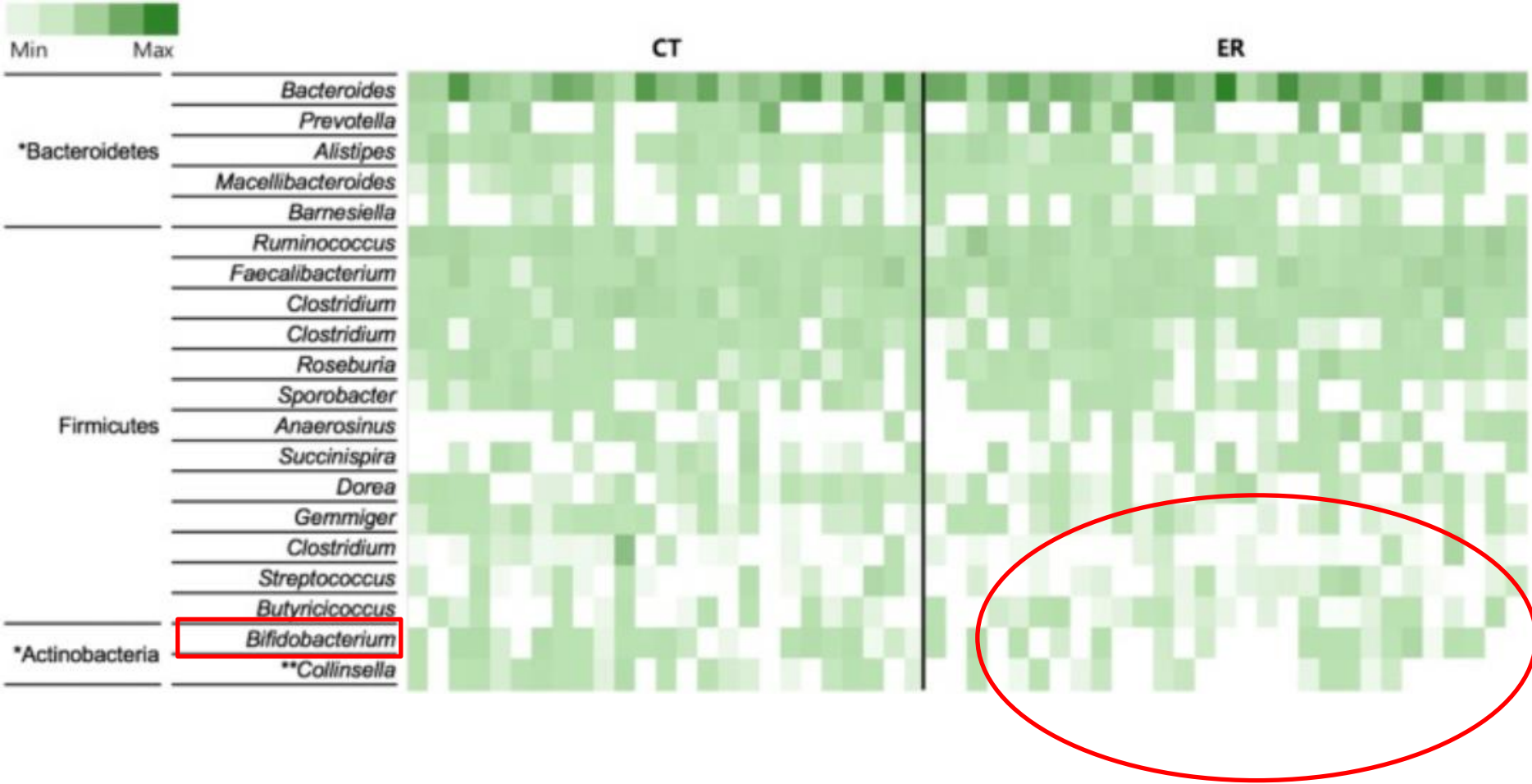
Yunju Jeong ^{1 2}, Ji-Won Kim ³, Hyun Ju You ^{4 5}, Sang-Jun Park ⁶, Jennifer Lee ⁷, Ji Hyeon Ju ⁸,
Myeong Soo Park ⁹, Hui Jin ¹⁰, Mi-La Cho ¹¹, Bin Kwon ¹², Sung-Hwan Park ¹³, Geun Eog Ji ^{14 15}

Affiliations + expand

PMID: 31100891 PMCID: [PMC6572219](#) DOI: [10.3390/jcm8050693](#)



**Romatoid artritli hastaların
Sağlıklı kontrol grubuna göre
Bağırsak bakteriyal çeşitliliğinde azalma**



Peki bu insanların bifidobakterileri neden azalmış ?

Observational Study

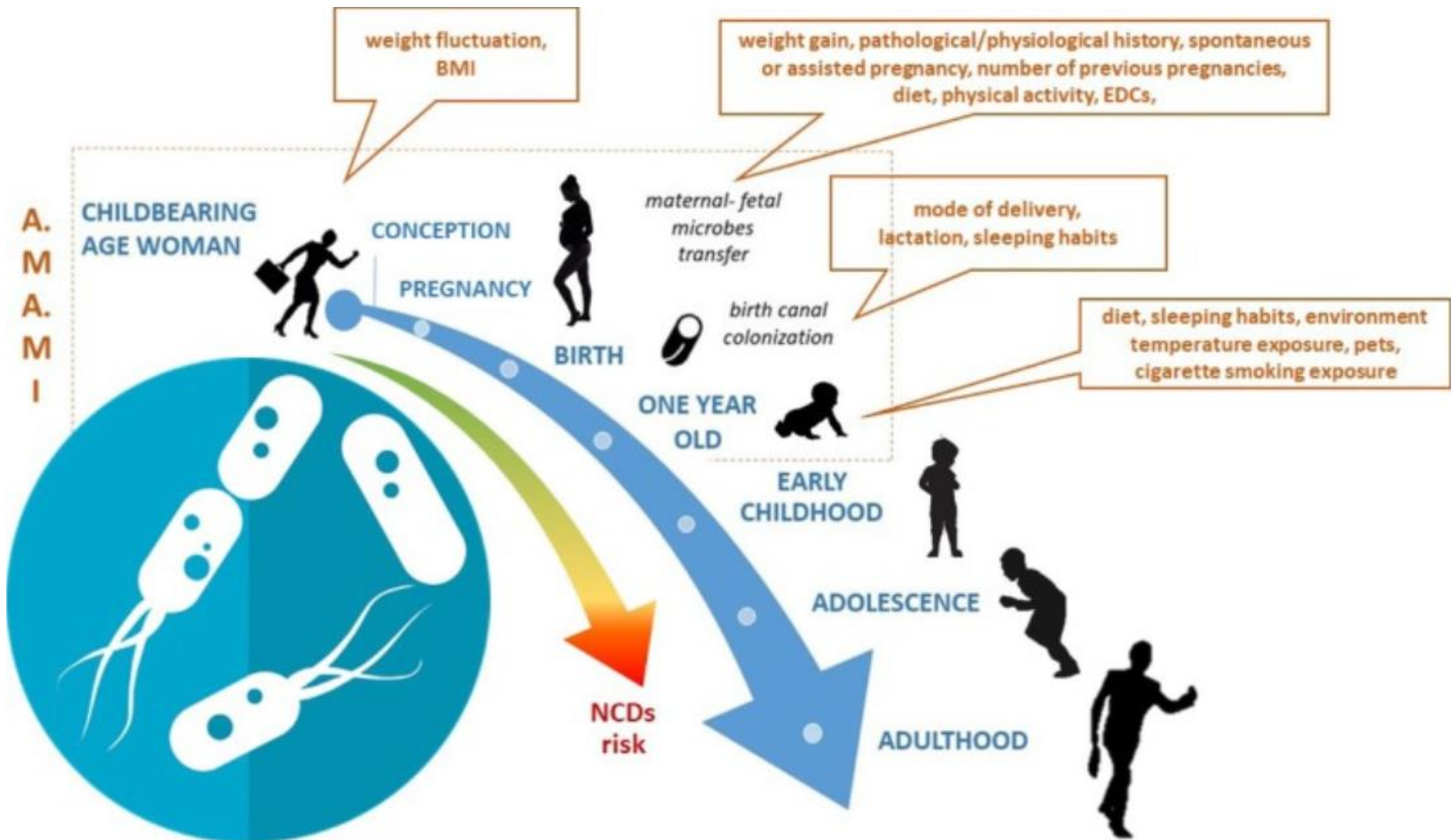
➤ Ital J Pediatr. 2020 Apr 15;46(1):45. doi: 10.1186/s13052-020-0794-8.

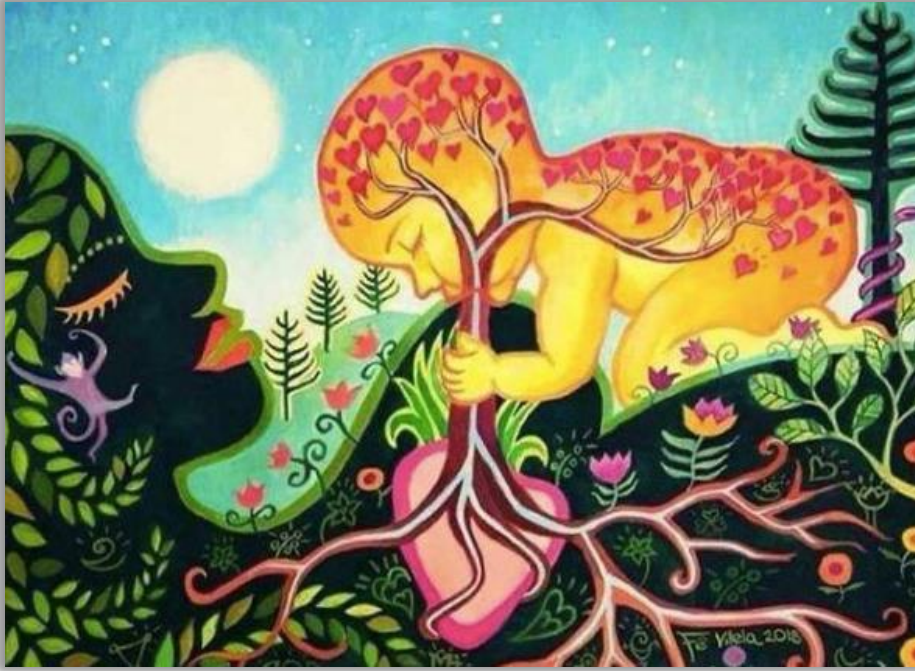
Prenatal and postnatal determinants in shaping offspring's microbiome in the first 1000 days: study protocol and preliminary results at one month of life

Benedetta Raspini¹, Debora Porri², Rachele De Giuseppe², Marcello Chieppa^{3 4}, Marina Liso³, Rosa Maria Cerbo⁵, Elisa Civardi⁵, Francesca Garofoli⁵, Maria Cristina Monti⁶, Mirco Vacca⁷, Maria De Angelis⁷, Hellas Cena^{2 8}

Affiliations + expand

PMID: 32293504 PMCID: PMC7158098 DOI: 10.1186/s13052-020-0794-8



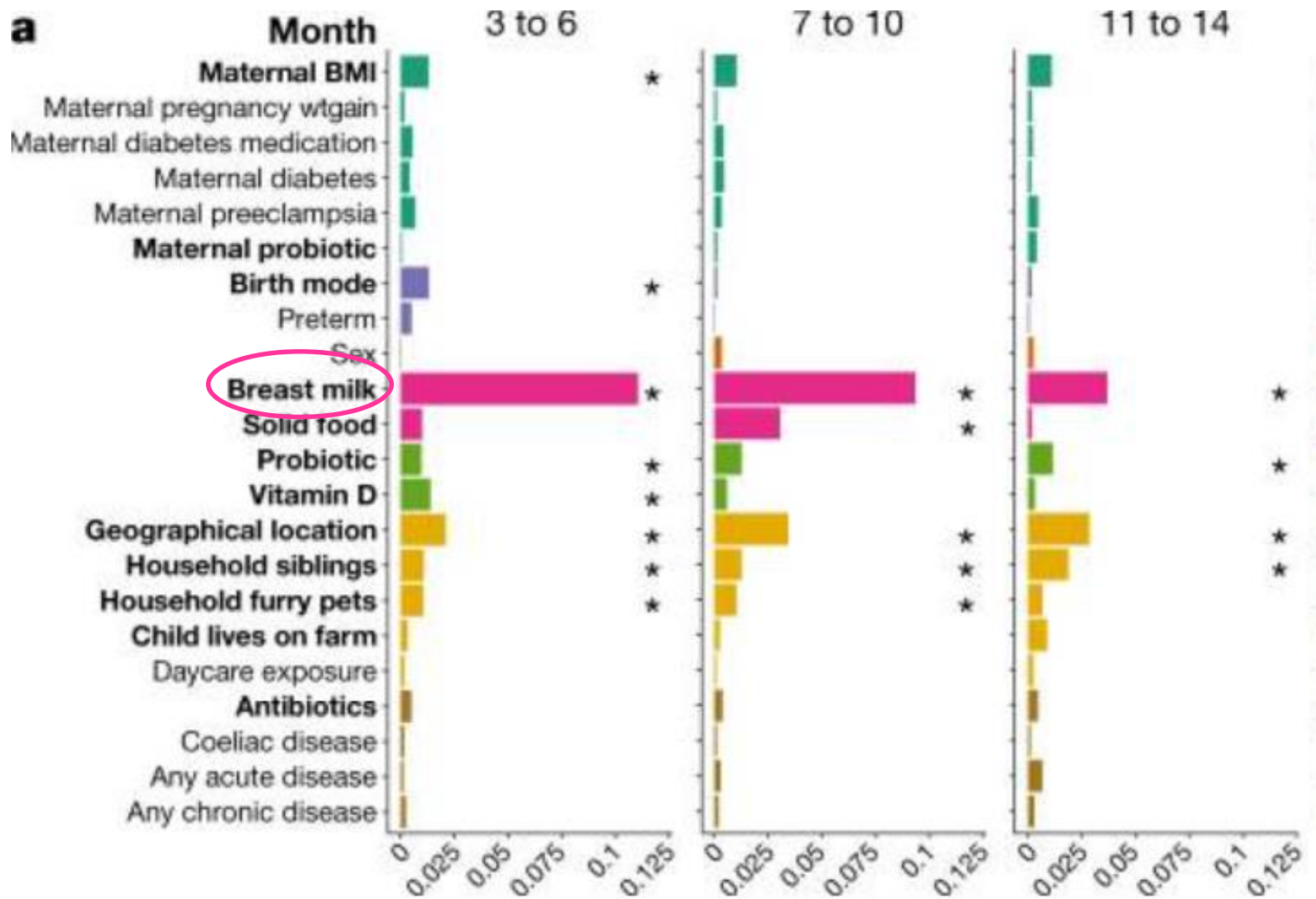


Sinbiyotik Bir Besin olan Anne Sütü

Pre-biyotikler
Anne sütü
Oligosakkaritleri

Pro-biyotikler
Bifidobacterium
Lactobacillus

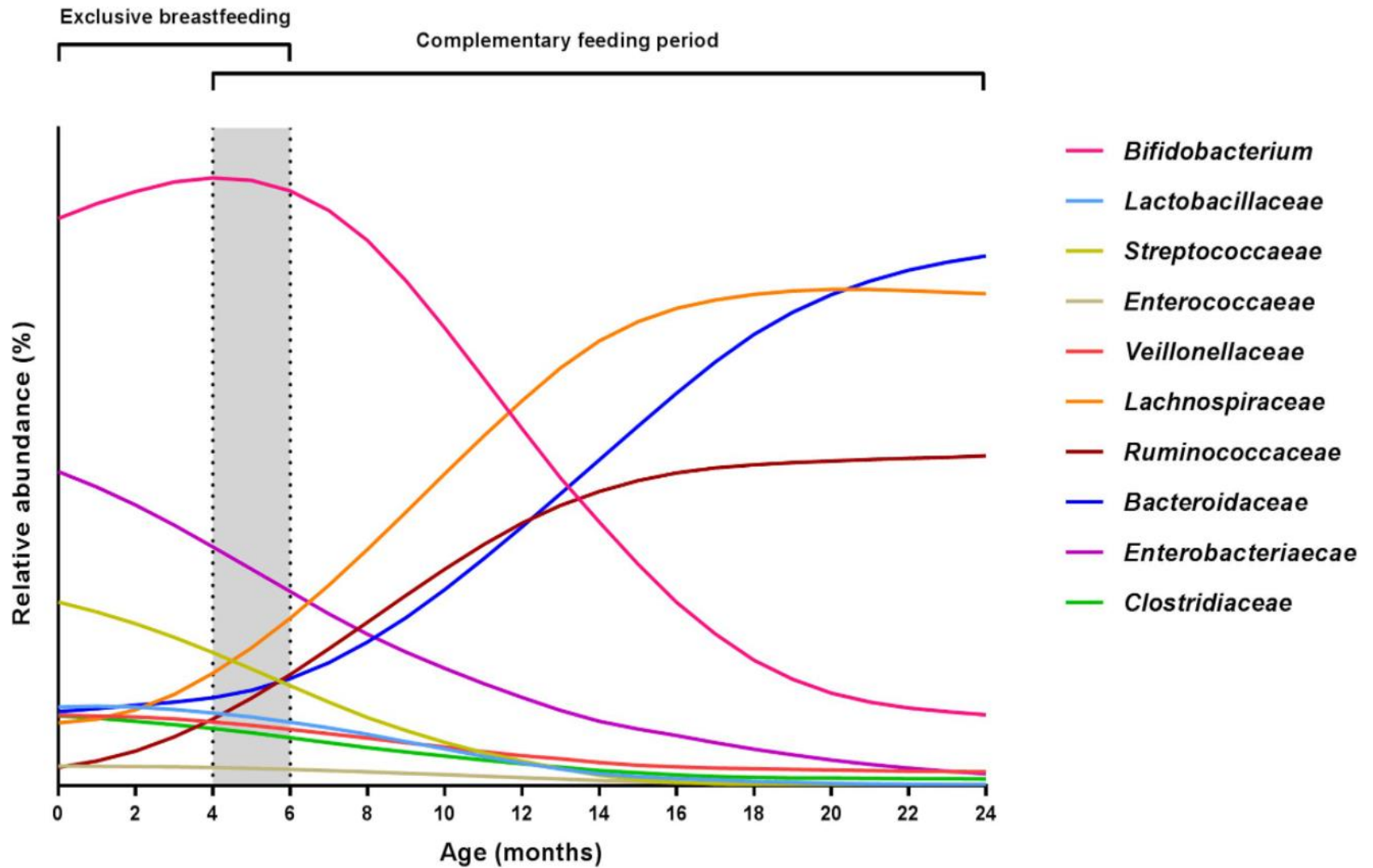
Bir bebeğin mikrobiyotasının ANA belirleyicisi



> [Nature](#). 2018 Oct;562(7728):583-588. doi: 10.1038/s41586-018-0617-x. Epub 2018 Oct 24.

Temporal development of the gut microbiome in early childhood from the TEDDY study





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

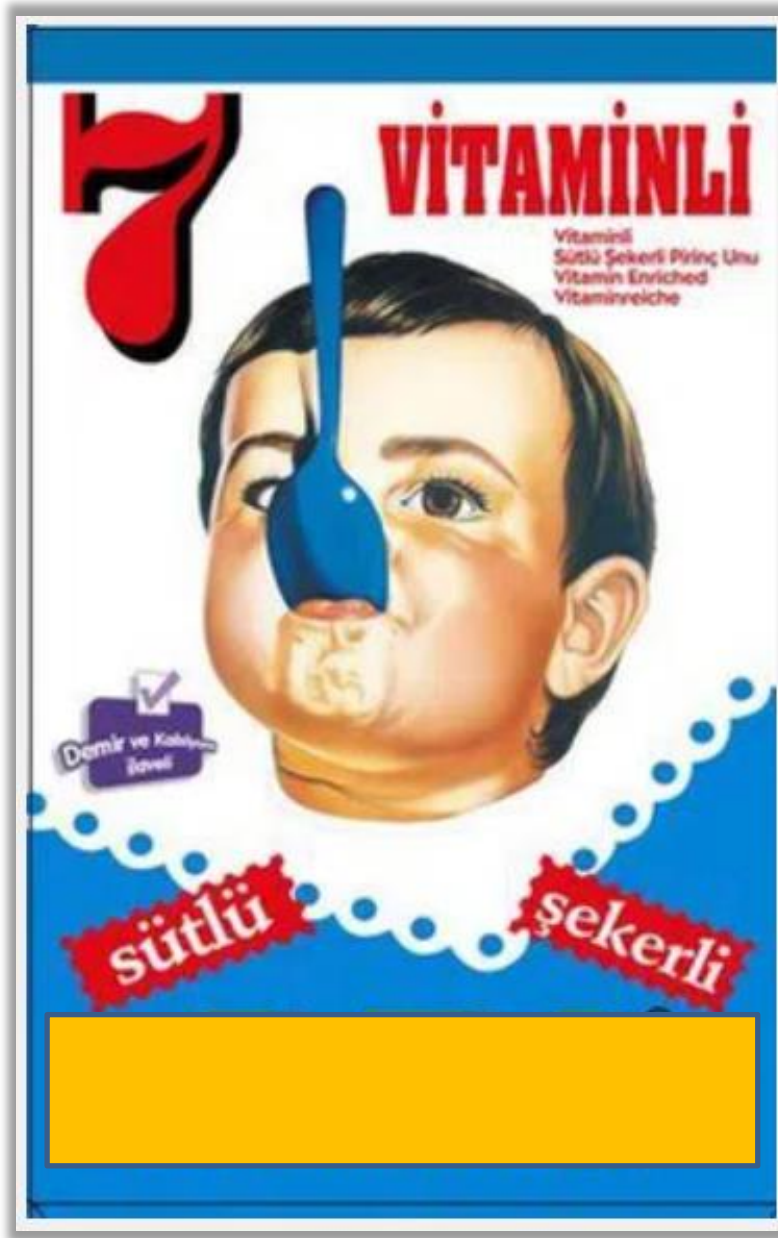
**Besinler bağırsak mikrobiyota değişikliğine neden olarak
Geçirgen bağırsak sendromunun neden olmakta**



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

Çocuk şekerle ne zaman tanıştı ?





Dr. Nagehan Katipoğlu
Çocuk Sağlığı Ve Hastalıkları



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

Fazla řeker t¼ketimi:

Diř ř¼r¼kleri

Yetersiz beslenme

Diyet řeřitlilięinin azalması

Obezite

Tip 2 diyabet

Kardiyovask¼ler hastalıklar



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

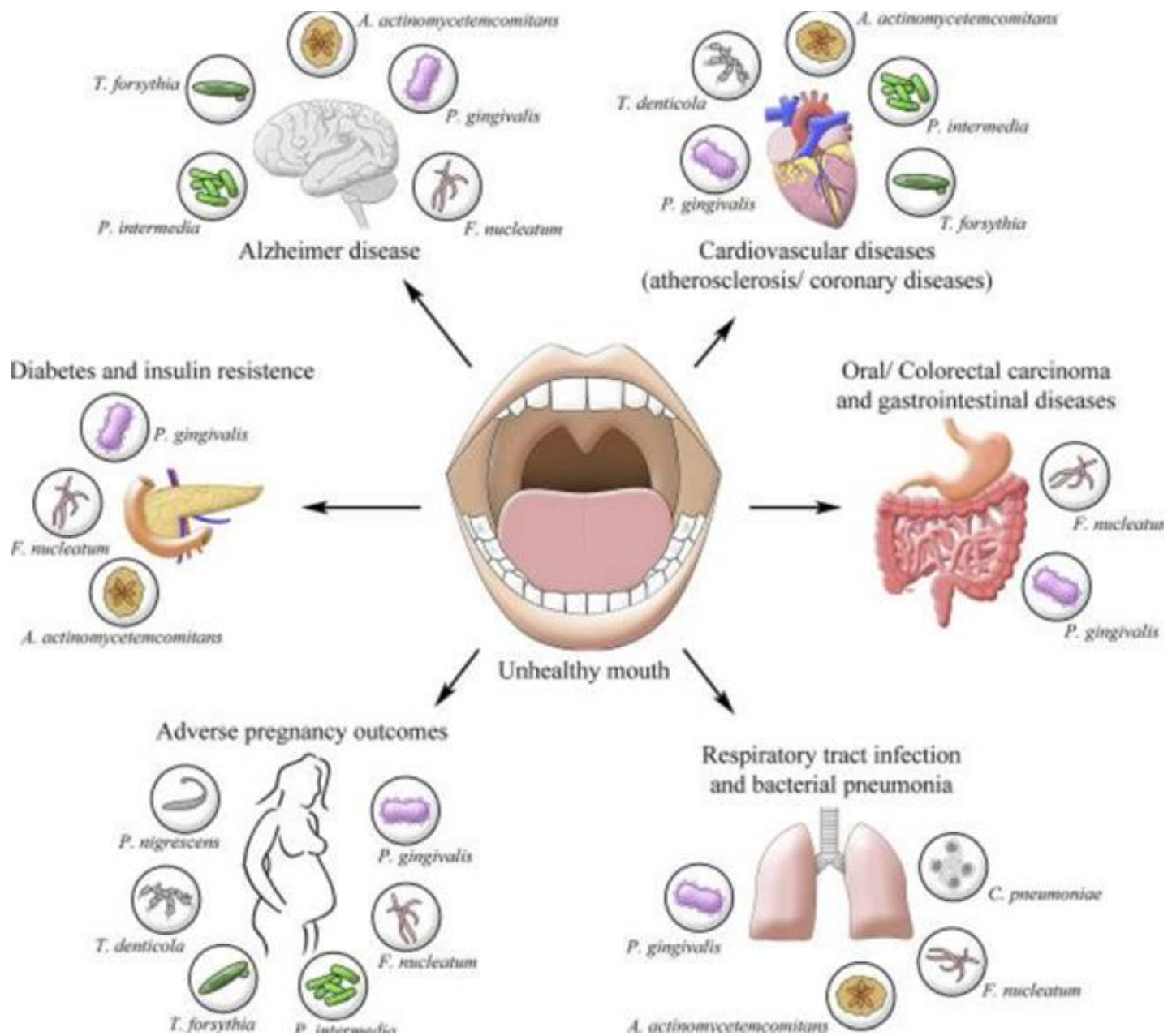
Affiliations + expand

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**



PMID: 30987702

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. The latest studies on the gut microbiota in children with allergic diseases have shown that dysbiosis characterized by fewer butyric acid-producing bacteria is associated with 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

(18-21) 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

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London School of
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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.

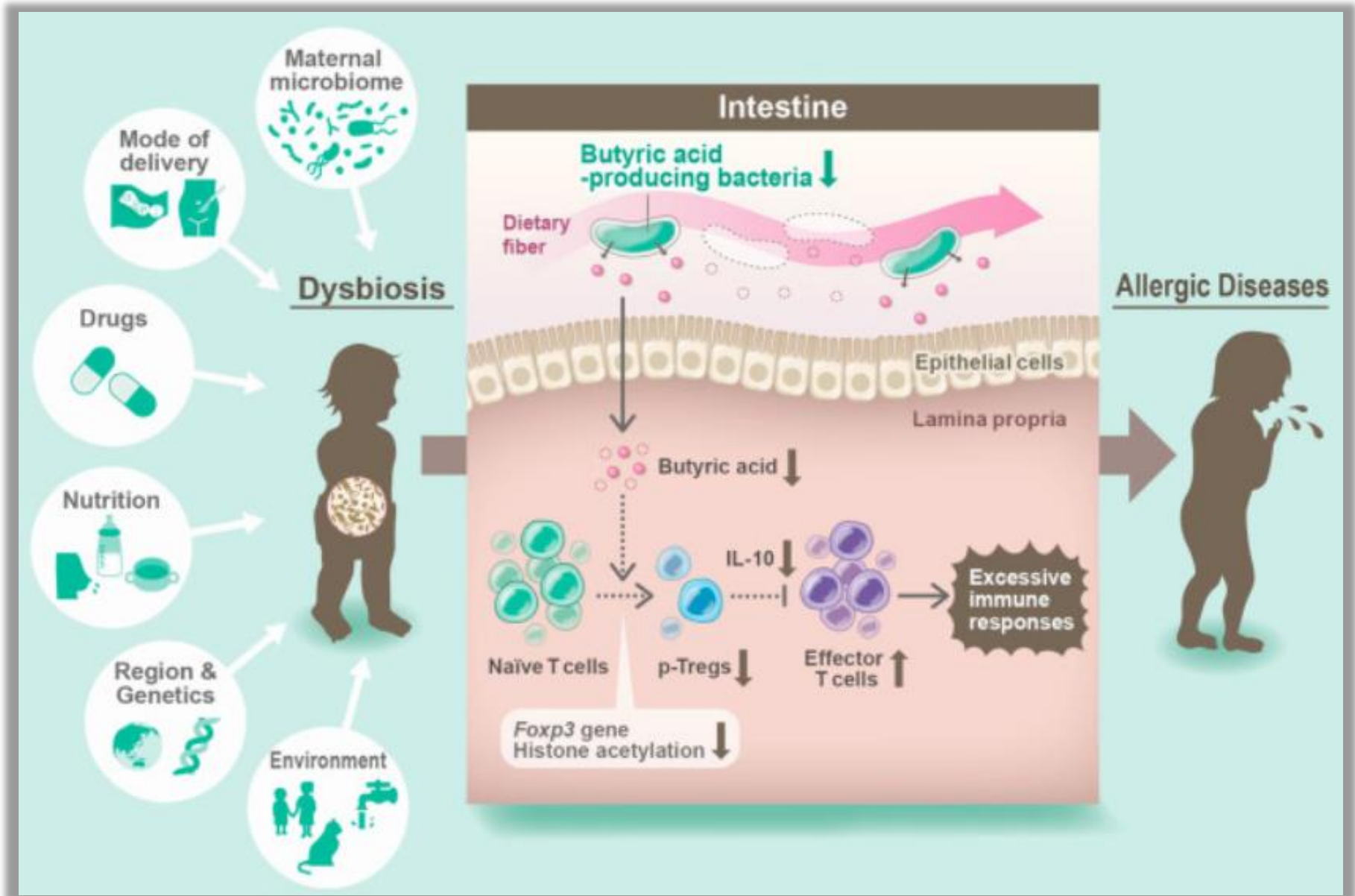
Incident allergic diseases in post-COVID-19 condition: multinational cohort studies from South Korea, Japan and the UK

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](#)





PMID: 35314107

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.





Medical Clinics of North America

Volume 90, Issue 6, November 2006, Pages 1049-1076



Antibiotics—Past, Present, and Future

Nancy Khardori MD, PhD  

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Medicine, PO Box 19636, Springfield, IL 62794-9636, USA



Dr. Nagehan Katipoğlu
Çocuk Sağlığı Ve Hastalıkları

> [Nature](#). 2011 Aug 24;476(7361):393-4. doi: 10.1038/476393a.

Antibiotic overuse: Stop the killing of beneficial bacteria

Martin Blaser¹

Concerns about antibiotics focus on bacterial resistance – but permanent changes to our protective flora could have more serious consequences, says Martin Blaser.





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 Geçirilmesi İin Değil

Her eriřkin zamanında ocuktu !!



Yıl 2022..

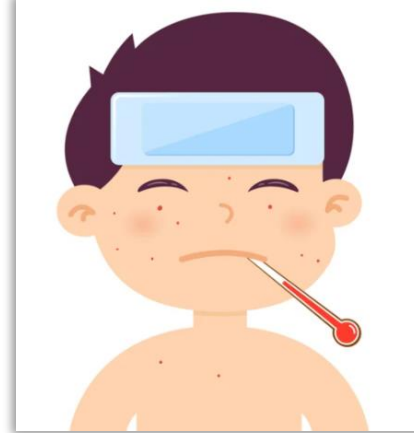
4 yaş erkek

Tekrarlayan ateş

4 haftada bir tonsilit

40-41 derece ateş

Acil servis başvuruları



Son 1 yılda;

3 kez IM penisilin

11 kez oral AB

Büyüme gelişme iyi

İştahı 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iř

2025 Ocak:

3 yıldır takipli

7 yařında

2. Sınıf ğrencisi

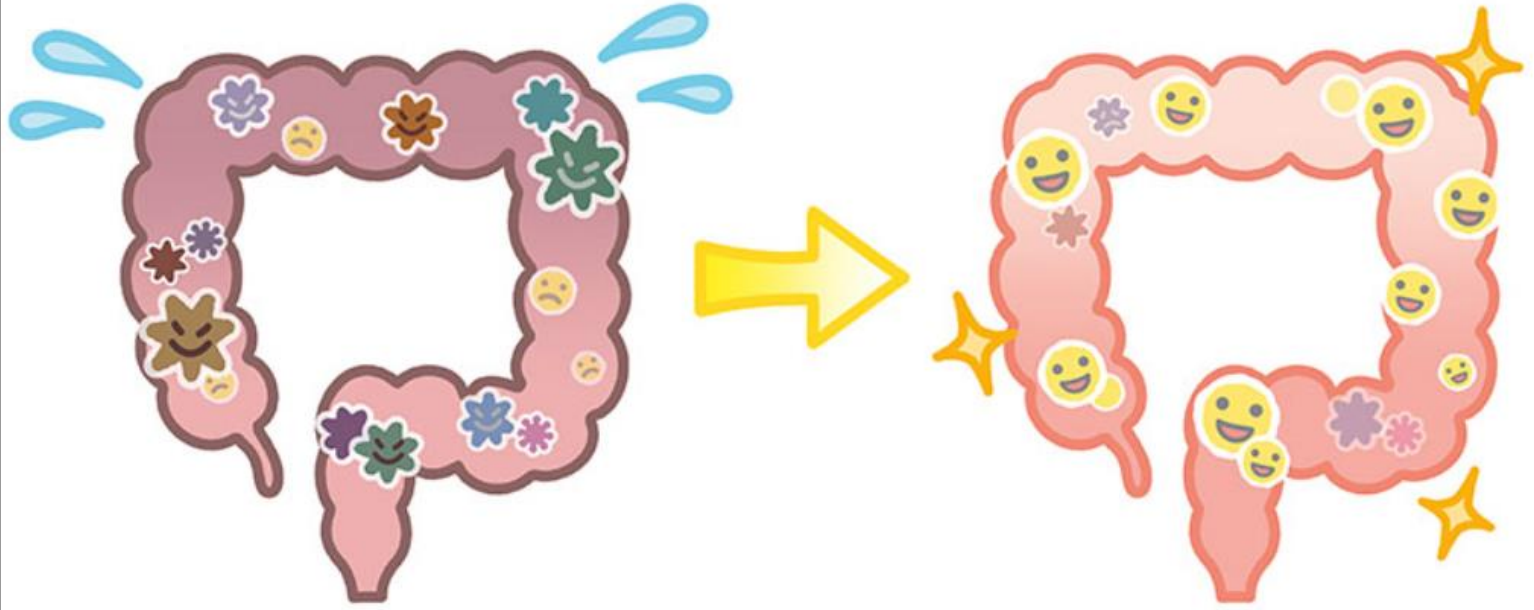
5 yařında okula bařladı



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..