

PNÖMOKOK HASTALIK YÜKÜ VE AŞIDAN BEKLENENLER

Prof. Dr. Ener Çağrı DİNLEYİCİ

31 Mayıs 2015

İzmir

3. Erişkin Bağışıklama Sempozyumu-KLİMİK









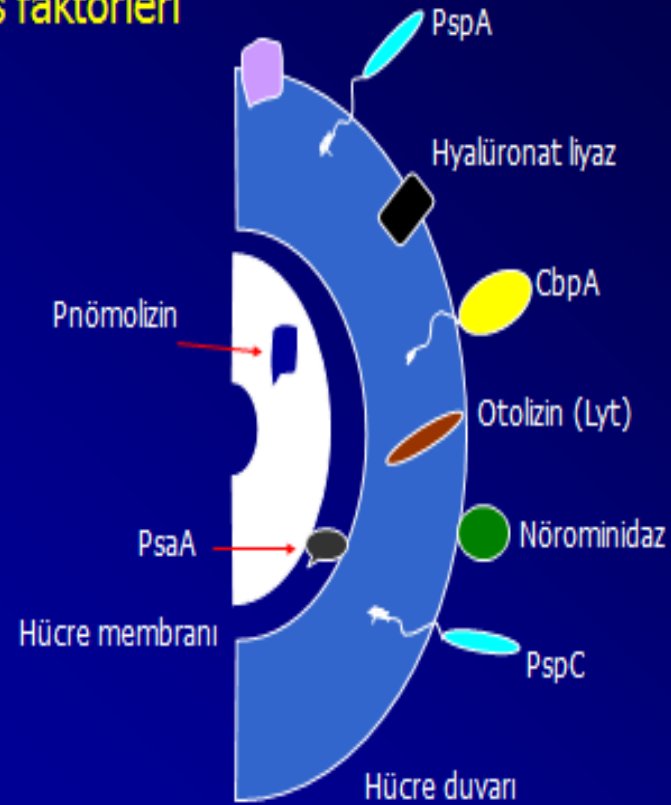
Amaç:

**Hastalıkları
oluşmadan
Önlemek!!!!**

**Ebola virüsü kötü bir şey
değil, bulaşınca öldürüyor**

- Streptococcus pneumoniae
- Gram pozitif diplokok
- Polisakarid kapsül
 - Serotiplerin belirlenmesi
 - Virülans faktörleri
- 90'dan fazla tanınmış serotip
 - 6C ve 6D

Virülans faktörleri



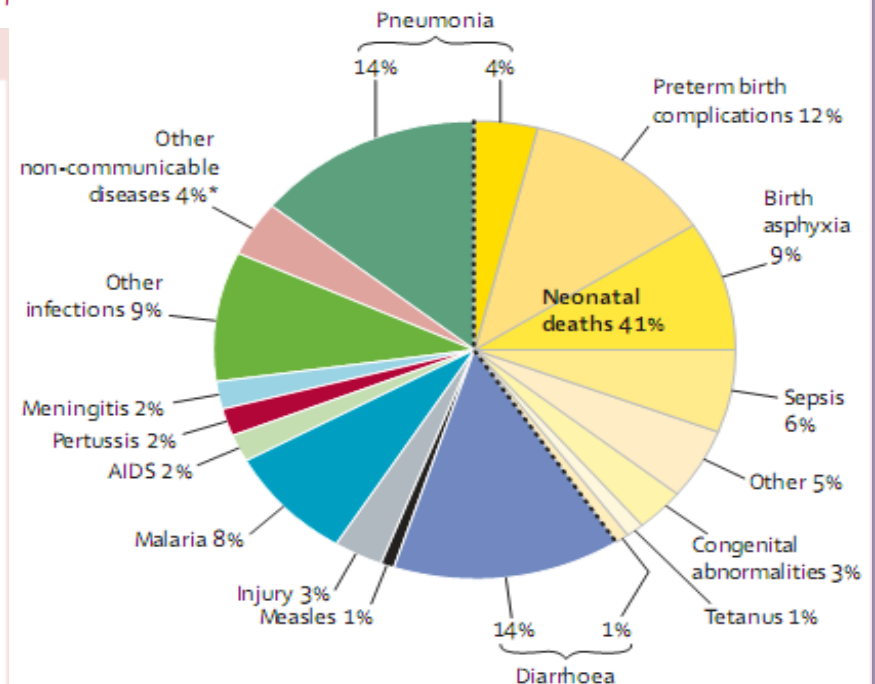
Global, regional, and national causes of child mortality in 2008: a systematic analysis

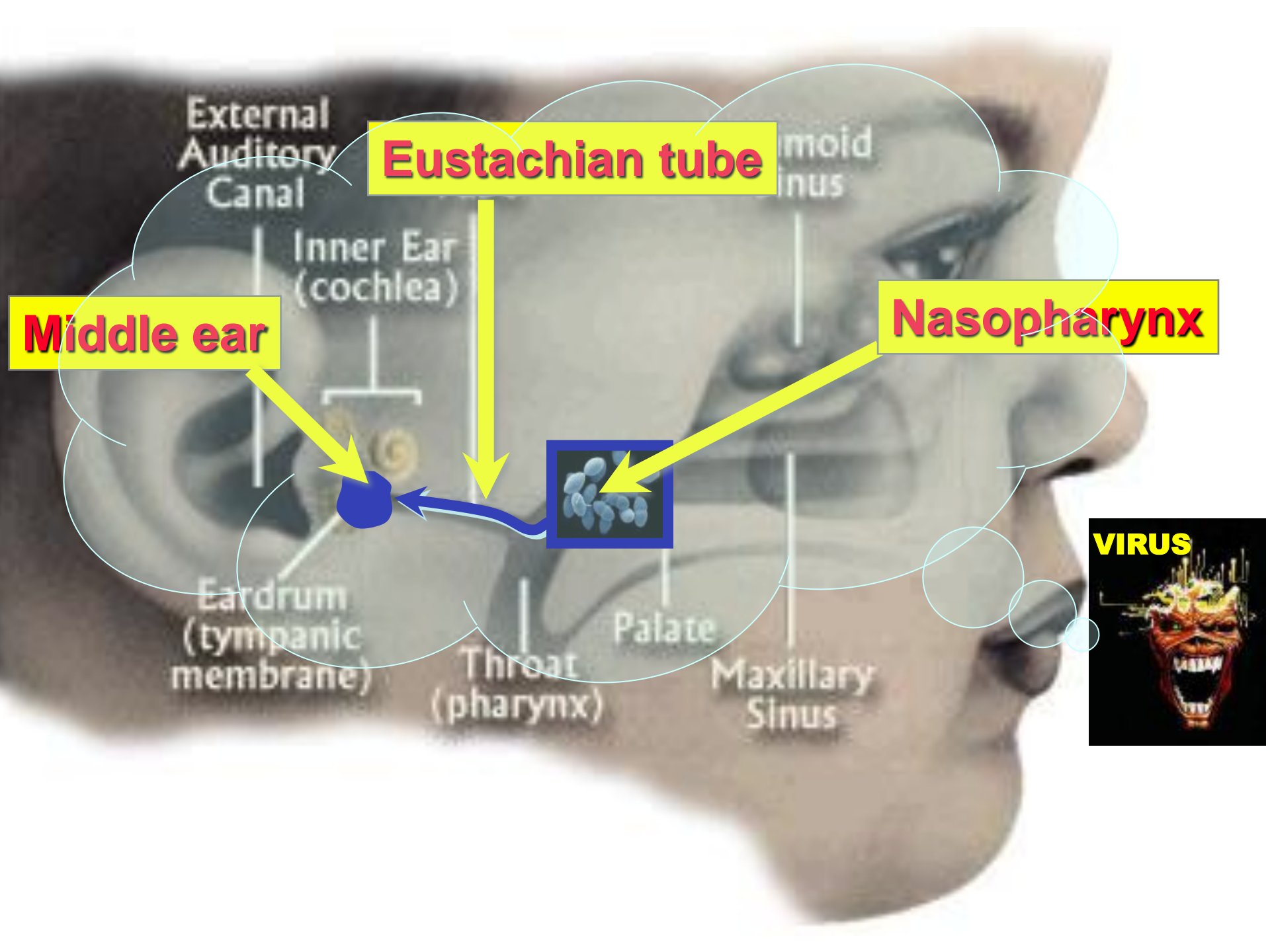


Robert E Black, Simon Cousens, Hope L Johnson, Joy E Lawn, Igor Rudan, Diego G Bassani, Prabhat Jha, Harry Campbell, Christa Fischer Walker, Richard Cibulskis, Thomas Eisele, Li Liu, Colin Mathers, for the Child Health Epidemiology Reference Group of WHO and UNICEF*

Children aged 1-59 months

Diarrhoea‡	1.257 (0.774-1.886)
Pneumonia*	1.189 (0.789-1.415)
Other infections	0.753 (0.479-2.830)
Malaria	0.732 (0.601-0.851)
Other non-communicable diseases	0.228 (0.143-0.606)
Injury	0.279 (0.174-0.738)
AIDS§	0.201 (0.186-0.215)
Pertussis¶	0.195 (—)
Meningitis	0.164 (0.110-0.728)
Measles	0.118 (0.075-0.180)
Congenital abnormalities†	0.104 (0.078-0.160)





External Auditory Canal

Eustachian tube

Sigmoid sinus

Inner Ear (cochlea)

Middle ear

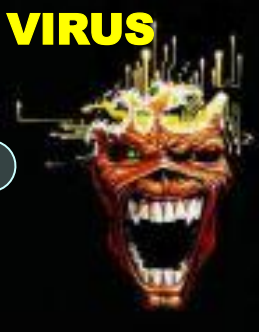
Nasopharynx

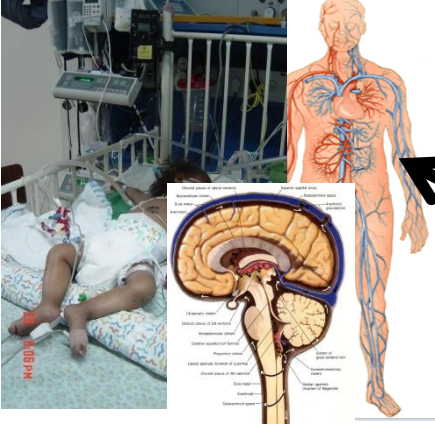
Eardrum (tympanic membrane)

Throat (pharynx)

Palate

Maxillary Sinus

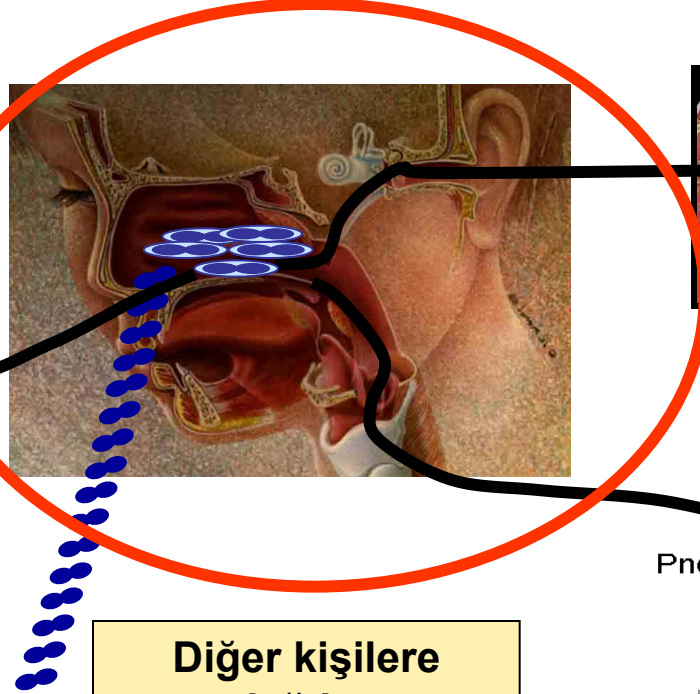




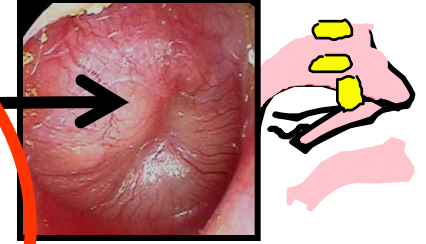
Invaziv Enfeksiyon

- Sepsis
- Menenjit

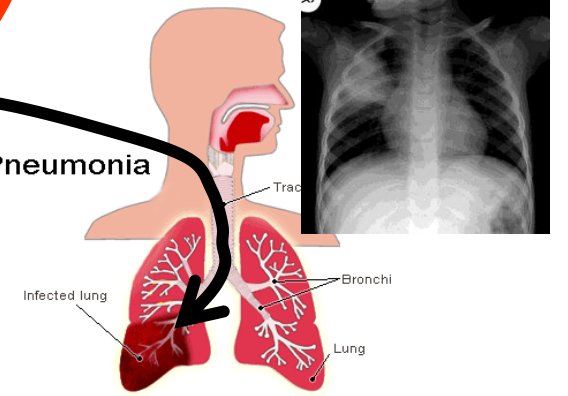
Antibiyotik direnci



Diğer kişilere dağılım



Pneumonia

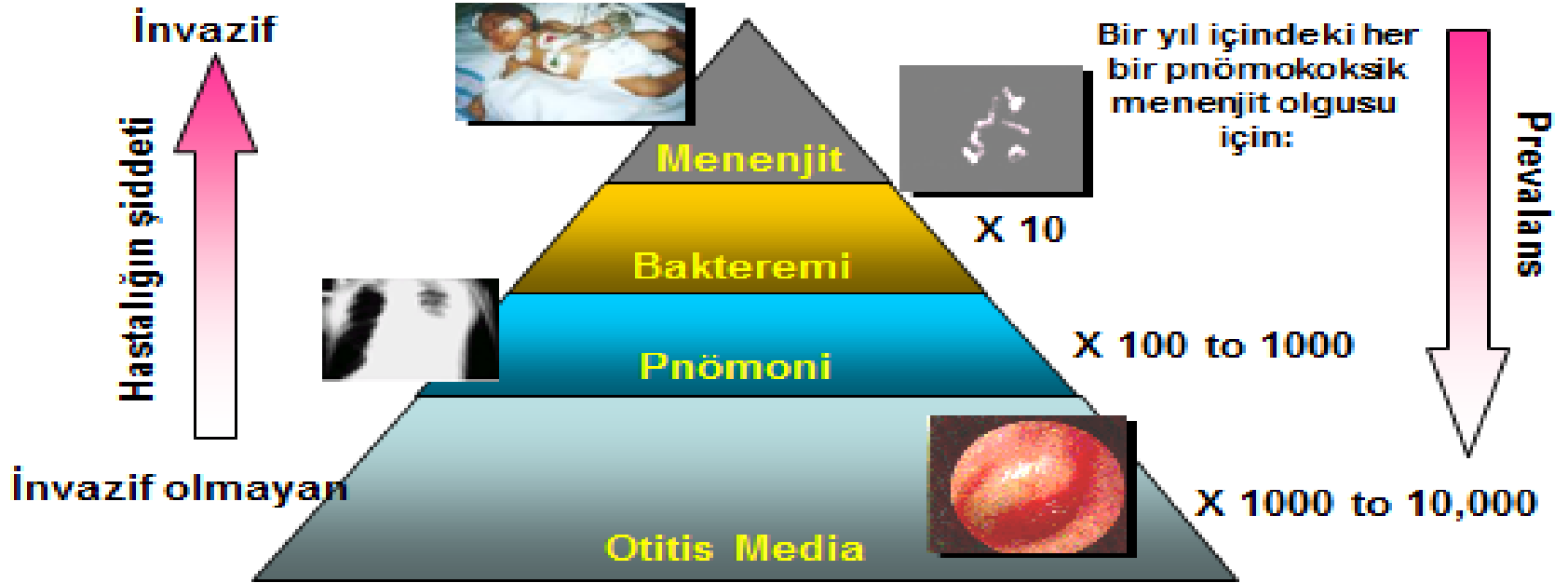


Mukoza Infeksiyon

- Otit
- Sinüzit
- Konjonktivit
- Pnömoni

- Pnömoni
- Menenjit
- Sinüzit
- Akut otitis media
- Primer odağı saptanamayan bakteremi
- Endokardit
- Septik artrit
- Osteomyelit
- Selülit
- Perikrdit
- Purpura fulminans
- Piyomiyozit
- Epidural apse
- Beyin apsesi
- Peritonit
- Mastoidit
- Hemolitik üremik sendrom

PNÖMOKOK



PNÖMOKOK PNÖMONİSİ MORTALİTE

8%-10%

Non Bakteremik pnömoni (sağlıklı kişide
%1)

Bakteremik pnömoni: 15%-20%
Yüksek riskli gruplarda 50%

Table 6. Most common etiologies of community-acquired pneumonia.

Condition	Commonly encountered pathogen(s)
Alcoholism	<i>Streptococcus pneumoniae</i> , oral anaerobes, <i>Klebsiella pneumoniae</i> , <i>Acinetobacter</i> species, <i>Mycobacterium tuberculosis</i>
COPD and/or smoking	<i>Haemophilus influenzae</i> , <i>Pseudomonas aeruginosa</i> , <i>Legionella</i> species, <i>S. pneumoniae</i> , <i>Moraxella caracalis</i> , <i>Chlamydophila pneumoniae</i>
Inpatient (ICU)	Aspiration Respiratory viruses ^a <i>S. pneumoniae</i> <i>Staphylococcus aureus</i> <i>Legionella</i> species Gram-negative bacilli <i>H. influenzae</i>

Table 4 Number and proportion of the serotypes in pneumococcal serious lower respiratory tract infections using the Urine Antigen Detection (UAD) assay

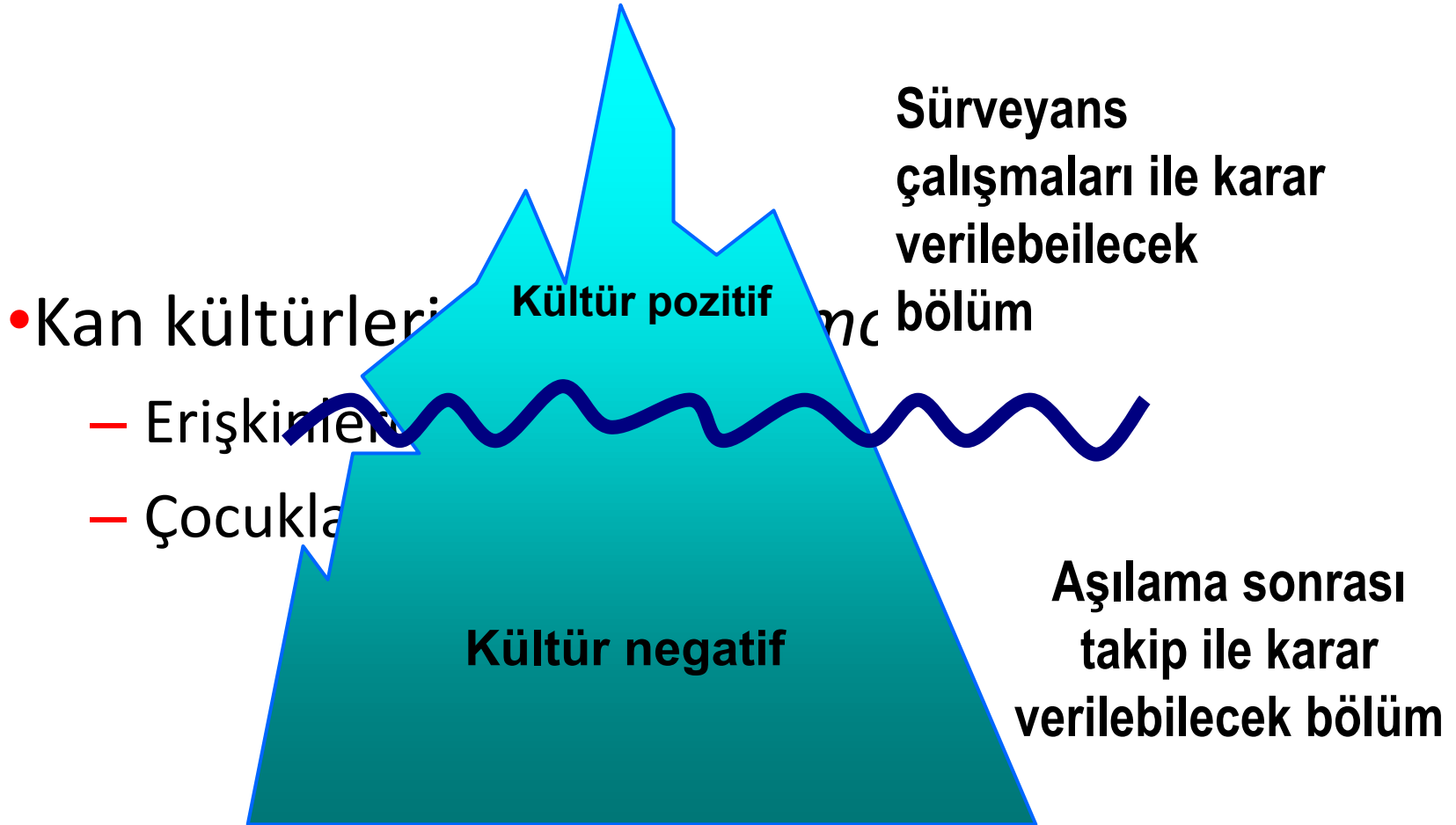
Pneumococcal serotype	N	%
1	1	6.67
3	1	6.67
5	1	6.67
6A	2	13.33
7 F	2	13.33
14	2	13.33
18C	1	6.67
19A	5	33.33
Total*	15	100.0

*15 (3.3 %) out of 456 SLRTI cases were positive for the UAD assay

Erişkinde Menenjit Etkenleri

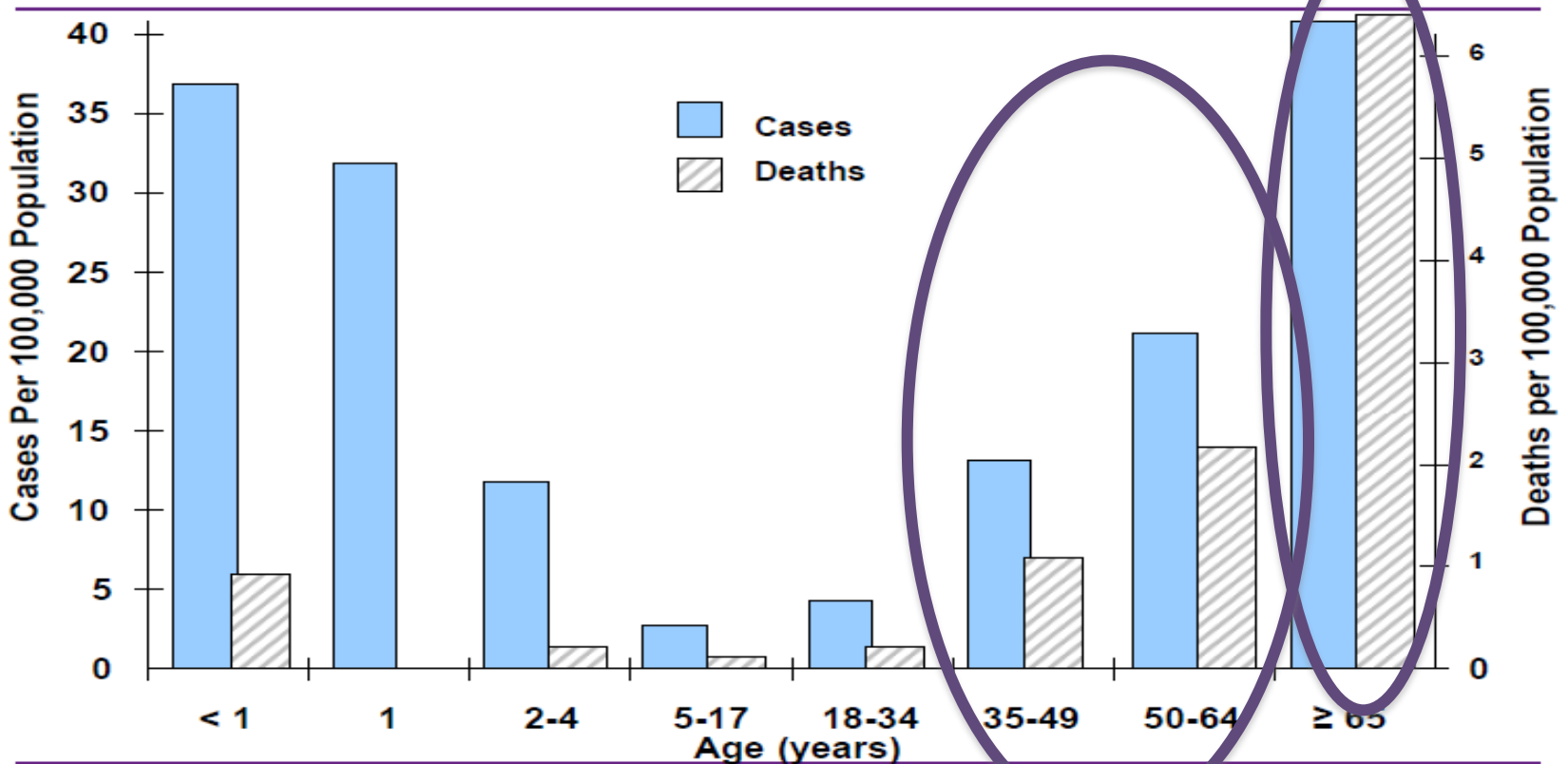
- *S. pneumoniae* % 60
- *N. meningitidis* % 20
- *H. influenzae* % 10
- *L. monocytogenes* % 6
- *Grup B streptokok* % 4

HASTALIK SIKLIĞININ BELİRLENMESİ

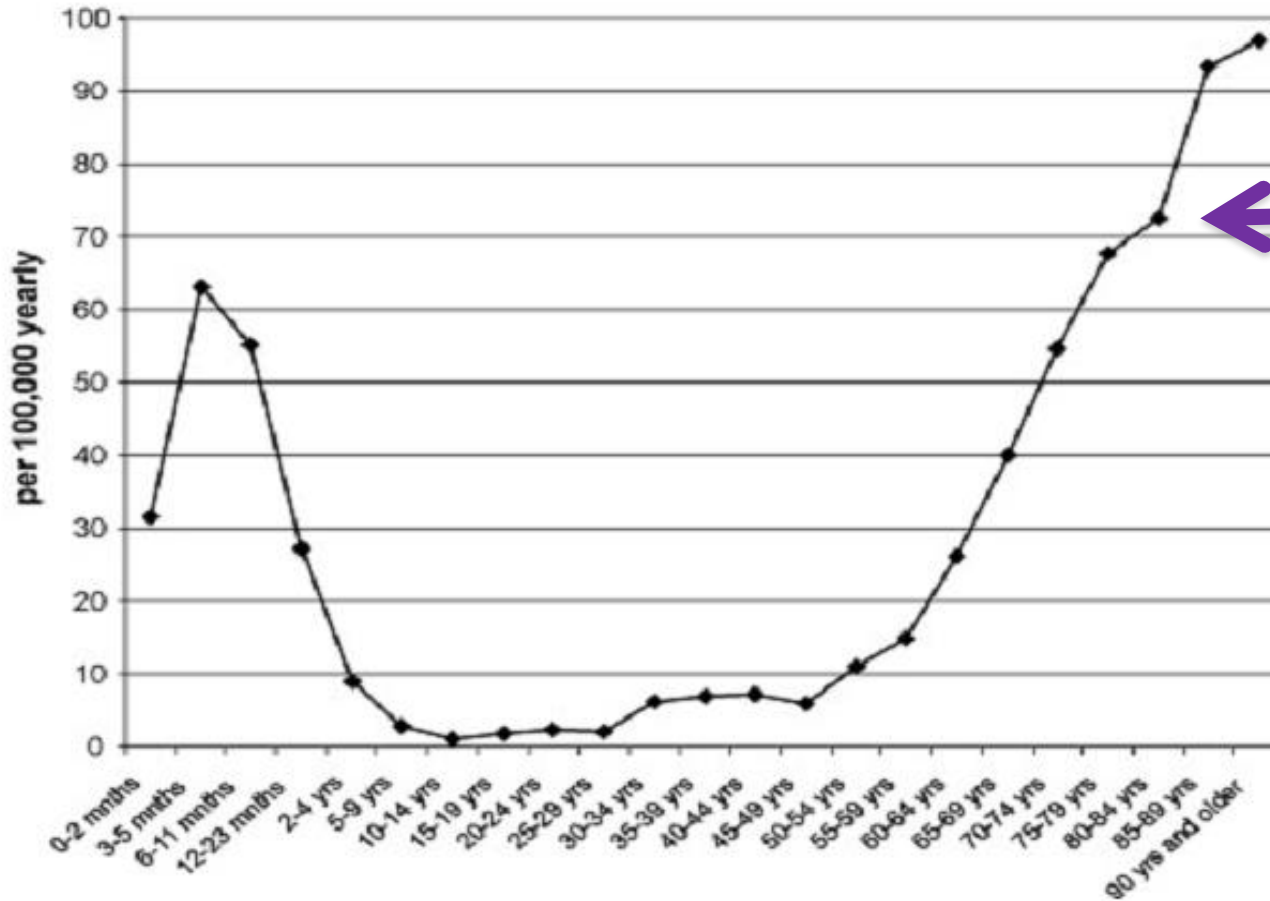


PNÖMOKOK ENFEKSİYONLARI- YAŞ

Invasive pneumococcal disease incidence and mortality, U.S. ABCs sites, 2008



PNÖMOKOK ENFEKSİYONLARI- YAŞ



Jansen A et al 2009. Invasive pneumococcal disease in the Netherlands. Vaccine 27 (17)

Risk factors for death from community-acquired invasive pneumococcal pneumonia, United States

Disease	Relative Risk (95% CI)
Cirrhosis	5.8 (3.7, 9.2)
Congestive heart failure	4.7 (3.3, 6.7)
Diabetes	2.9 (2.0, 4.3)
Chronic lung disease	2.8 (1.9, 4.0)
Asplenia	3.2 (1.1, 9.3)
AIDS	2.3 (1.5, 3.6)
Solid organ malignancy	3.7 (2.5, 5.4)
Hematologic malignancy	2.2 (1.2, 4.3)

MAJOR ARTICLE

Prevention of Acute Myocardial Infarction and Stroke among Elderly Persons by Dual Pneumococcal and Influenza Vaccination: A Prospective Cohort Study

Ivan F. N. Hung,^{1,2} Angela Y. M. Leung,³ Daniel W. S. Chu,⁵ Doris Leung,³ Terence Cheung,⁷ Chi-Kuen Chan,² Cindy L. K. Lam,² Shao-Haei Liu,⁶ Chung-Ming Chu,⁸ Pak-Leung Ho,¹ Sophia Chan,³ Tai-Hing Lam,⁴ Raymond Liang,² and Kwok-Yung Yuen¹

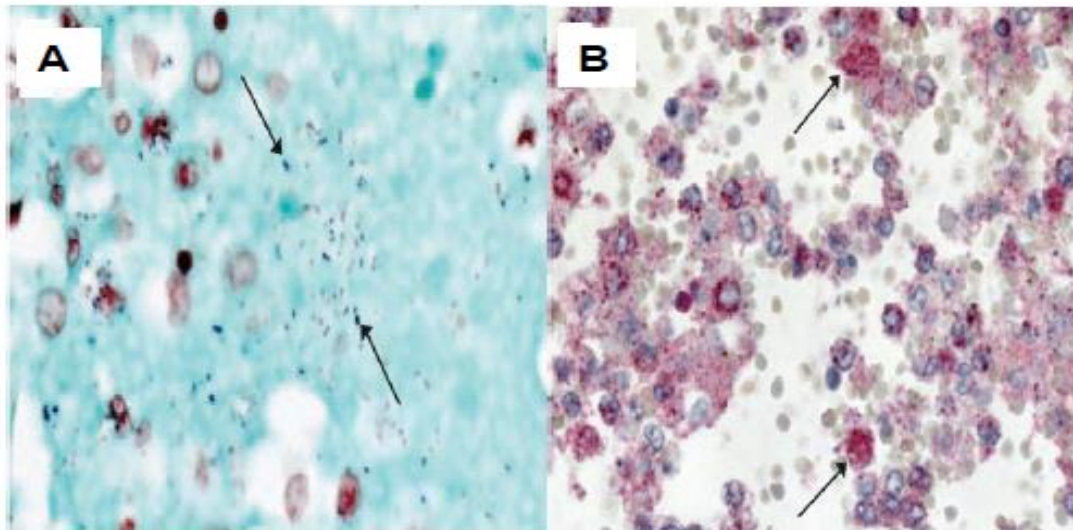
¹Infectious Disease Division, Queen Mary Hospital, State Key Laboratory of Emerging Infectious Diseases, Carol Yu Centre for Infection, The University of Hong Kong, Departments of ²Medicine and ³Nursing Studies and ⁴School of Public Health, The University of Hong Kong, ⁵Family Medicine and Primary Healthcare and ⁶Department of Infection, Emergency, and Contingency, Hospital Authority, ⁷Centre for Health Protection, Department of Health, and ⁸Department of Medicine, United Christian Hospital, Hong Kong SAR, China

İNVAZİV HASTALIK İÇİN RİSK FAKTÖRLERİ





Bacterial infections in lung tissue of 22 (29%) of 77 fatal U.S. cases of H1N1 pandemic influenza



<u>Bacteria</u>	<u># cases</u>
<i>S. pneumoniae</i>	10
<i>S. aureus</i>	7
<i>S. pyogenes</i>	6
<i>S. mitis</i>	2
<i>H. influenzae</i>	1
Multiple pathogens	4

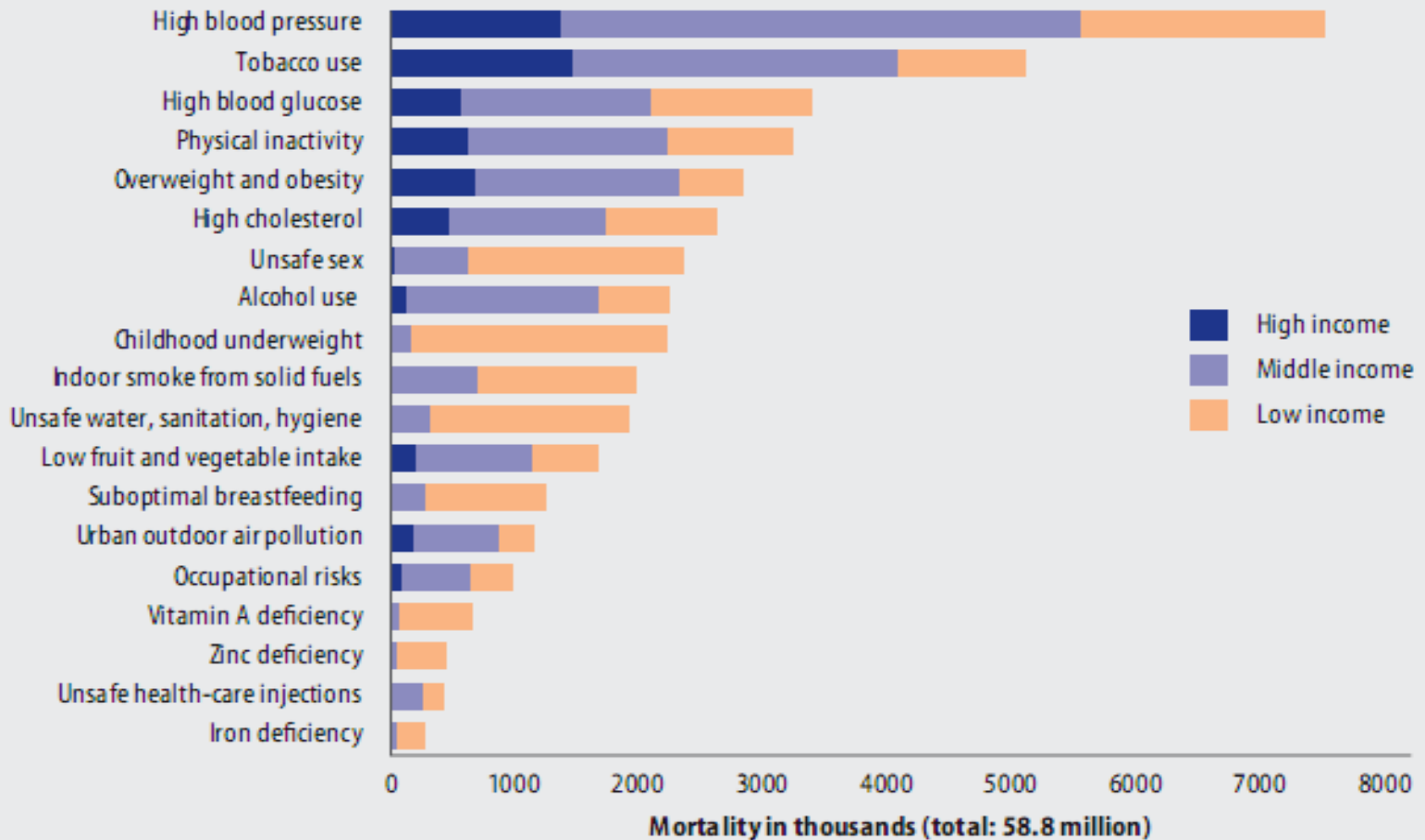
Histochemical and immunohistochemical diagnosis of *S. pneumoniae* infection

A: Lillie-Twort Gram stain of lung tissue

B: Immunohistochemical staining of multiple *S. pneumoniae* organisms

RISK FAKTÖRLERİ

Figure 6: Deaths attributed to 19 leading risk factors, by country income level, 2004.



MAJOR ARTICLE

Rates of Pneumococcal Disease in Adults With Chronic Medical Conditions

Kimberly M. Shea,¹ John Edelsberg,² Derek Weycker,² Raymond A. Farkouh,³ David R. Strutton,³ and Stephen I. Pelton^{1,4}

¹Boston University Schools of Medicine and Public Health, Boston, Massachusetts; ²Policy Analysis Inc. (PAI), Brookline, Massachusetts; ³Pfizer Inc., Collegeville, Pennsylvania; and ⁴Boston Medical Center, Boston, Massachusetts

Table 1. Rates of All-Cause Pneumonia Among Healthy, At-Risk, and High-Risk Adults

Risk Group	No. of Person-Years			All-Cause Pneumonia					
				Age 18–49 Years		Age 50–64 Years		Age ≥65 Years	
	Age 18–49 Years	Age 50–64 Years	Age ≥65 Years	Rate per 100K	Rate Ratios* (95% CI)	Rate per 100K	Rate Ratios* (95% CI)	Rate per 100K	Rate Ratios* (95% CI)
Healthy	42 472 513	20 972 935	5 389 930	363	–	651	–	1874	–
At-risk	5 672 688	7 696 247	4 579 505	1147	3.2 (3.1–3.2)	2024	3.1 (3.1–3.1)	5662	3.0 (3.0–3.0)
Alcoholism	198 416	135 218	23 905	1313	3.6 (3.5–3.8)	3278	5.0 (4.9–5.2)	7400	3.9 (3.8–4.1)
Asthma	1 277 380	908 130	362 183	1389	3.8 (3.8–3.9)	3046	4.7 (4.6–4.7)	8570	4.6 (4.5–4.6)
Chronic heart disease	768 514	2 314 484	2 363 798	1793	4.9 (4.9–5.0)	2779	4.3 (4.2–4.3)	7100	3.8 (3.8–3.8)
Chronic liver disease	117 513	175 184	50 540	2042	5.6 (5.4–5.9)	3646	5.6 (5.5–5.7)	7742	4.1 (4.0–4.3)
Chronic lung disease	406 388	844 755	882 061	3105	8.6 (8.4–8.7)	5618	8.6 (8.5–8.7)	12 379	6.6 (6.6–6.7)
Chronic use of oral steroids	145 067	130 200	65 775	873	2.4 (2.3–2.5)	1488	2.3 (2.2–2.4)	3696	2.0 (1.9–2.1)
Diabetes	1 913 653	3 807 505	2 267 133	1134	3.1 (3.1–3.2)	1959	3.0 (3.0–3.0)	5266	2.8 (2.8–2.8)
Neuromuscular/seizure disorders	307 529	199 605	104 864	1677	4.6 (4.5–4.8)	3144	4.8 (4.7–5.0)	8539	4.6 (4.5–4.7)
Rheumatoid arthritis/Crohn's/lupus	238 225	341 148	162 206	1491	4.1 (4.0–4.3)	2578	4.0 (3.9–4.0)	6465	3.5 (3.4–3.5)
Smokers	1 118 296	1 010 649	180 504	1188	3.3 (3.2–3.3)	2599	4.0 (3.9–4.0)	6691	3.6 (3.5–3.6)

PNÖMONİ RİSK FAKTÖRLERİ

Table 1. Rates of All-Cause Pneumonia Among Healthy, At-Risk, and High-Risk Adults

Risk Group	No. of Person-Years			All-Cause Pneumonia					
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	Age 18–49 Years	Age 50–64 Years	Age ≥65 Years	Rate per 100K	Rate Ratios* (95% CI)	Rate per 100K	Rate Ratios* (95% CI)	Rate per 100K	Rate Ratios* (95% CI)
High-risk	1 111 272	1 951 128	1 774 181	2204	6.1 (6.0–6.2)	3601	5.5 (5.5–5.6)	7594	4.1 (4.0–4.1)
Chronic renal failure	122 921	233 166	344 160	4033	11.1 (10.8–11.4)	6375	9.8 (9.6–10.0)	11 873	6.3 (6.3–6.4)
Cochlear implant	1211	1306	1144	1404	3.9 (2.4–6.2)	1990	3.1 (2.1–4.5)	4544	2.4 (1.8–3.2)
Congenital immunodeficiency	37 780	38 991	14 392	4312	11.9 (11.3–12.5)	7476	11.5 (11.1–11.9)	14 738	7.9 (7.5–8.2)
Diseases of white blood cells	55 679	94 123	46 869	5092	14.0 (14.1–14.6)	7806	12.0 (11.7–12.3)	13 262	7.1 (6.9–7.3)
Functional/anatomic asplenia	53 464	55 834	42 976	6616	18.2 (17.7–18.9)	10 737	16.5 (16.1–16.9)	15 976	8.5 (8.3–8.7)
HIV	109 093	84 091	7306	2080	5.7 (5.5–6.0)	2947	4.5 (4.4–4.7)	6461	3.4 (3.2–3.8)
Immunosuppressive drugs/ conditions	840 806	1 654 970	1 523 021	2188	6.0 (5.9–0.00)	3633	5.6 (5.5–5.6)	7248	3.9 (3.8–3.9)

PNÖMONİ RİSK FAKTÖRLERİ

Table 2. Rates of Pneumococcal Pneumonia and Invasive Pneumococcal Disease Among Healthy, At-Risk, and High-Risk Adults

Risk Group	No. of Person-Years			Pneumococcal Pneumonia						Invasive Pneumococcal Disease					
				Age 18-49 Years		Age 50-64 Years		Age ≥65 Years		Age 18-49 Years		Age 50-64 Years		Age ≥65 Years	
	Age 18-49 Years	Age 50-64 Years	Age ≥65 Years	Rate per 100K	Rate Ratios* (95% CI)	Rate per 100K	Rate Ratios* (95% CI)	Rate per 100K	Rate Ratios* (95% CI)	Rate per 100K	Rate Ratios* (95% CI)	Rate per 100K	Rate Ratios* (95% CI)	Rate per 100K	Rate Ratios* (95% CI)
Healthy	42 472 513	20 972 935	5 389 930	14	-	25	-	67	-	1.8	-	4.5	-	8.3	-
At-risk	5 672 688	7 696 247	4 579 505	44	3.1 (3.0-3.3)	80	3.2 (3.0-3.3)	210	3.1 (3.0-3.2)	5.6	3.0 (2.7-3.5)	12	2.7 (2.5-2.9)	23	2.8 (2.5-3.1)
Alcoholism	198 416	135 218	23 905	51	3.6 (3.0-4.4)	116	4.6 (3.9-5.4)	305	4.5 (3.6-5.7)	14.1	7.7 (5.3-11.2)	29.6	6.6 (4.8-9.1)	41.8	5.0 (2.7-9.4)
Asthma	1 277 380	908 130	362 183	52	3.7 (3.4-4.0)	124	4.9 (4.6-5.2)	398	5.9 (5.6-6.3)	4.5	2.5 (1.9-3.2)	16.7	3.8 (3.2-4.5)	34.2	4.1 (3.4-5.0)
Chronic heart disease	768 514	2 314 484	2 363 798	72	5.1 (4.6-5.5)	106	4.2 (4.0-4.4)	254	3.8 (3.6-3.9)	7.2	3.9 (3.0-5.1)	13	2.9 (2.6-3.3)	26.6	3.2 (2.8-3.6)
Chronic liver disease	117 513	175 184	50 540	90	6.4 (5.3-7.7)	148	5.8 (5.2-6.6)	287	4.3 (3.6-5.0)	18.7	10.2 (6.7-15.6)	28.5	6.4 (4.8-8.5)	53.4	6.4 (4.4-9.5)
Chronic lung disease	406 388	844 755	882 061	126	8.9 (8.1-9.7)	248	9.8 (9.3-10.3)	516	7.7 (7.3-8.0)	11.6	6.3 (4.7-8.5)	34.4	7.7 (6.8-8.8)	51.1	6.2 (5.4-7.0)
Chronic use of oral steroids	145 067	130 200	65 775	39	2.7 (2.1-3.5)	61	2.4 (1.9-3.0)	128	1.9 (1.5-2.4)	6.2	3.4 (1.8-6.5)	10	2.2 (1.3-3.9)	15.2	1.8 (1.0-3.4)
Diabetes	1 913 653	3 807 505	2 267 133	44	3.1 (2.9-3.3)	76	3.0 (2.8-3.1)	187	2.8 (2.7-2.9)	5.5	3.0 (2.4-3.7)	11.6	2.6 (2.3-2.9)	21.1	2.5 (2.2-2.9)
Neuromuscular/seizure disorders	307 529	199 605	104 864	81	5.7 (5.0-6.5)	136	5.3 (4.7-6.0)	330	4.9 (4.4-5.5)	7.2	3.9 (2.5-6.0)	21.5	4.8 (3.6-6.6)	38.1	4.6 (3.3-6.3)
Rheumatoid arthritis/ Crohn's/lupus	238 225	341 148	162 206	63	4.4 (3.8-5.2)	108	4.3 (3.8-4.7)	266	4.0 (3.6-4.4)	13	7.1 (4.9-10.1)	21.1	4.7 (3.7-6.0)	33.3	4.0 (3.0-5.3)
Smokers	1 118 296	1 010 649	180 504	42	3.0 (2.7-3.3)	111	4.4 (4.1-4.6)	264	3.9 (3.6-4.3)	6.5	3.6 (2.8-4.5)	19.2	4.3 (3.7-5.0)	34.9	4.2 (3.2-5.5)

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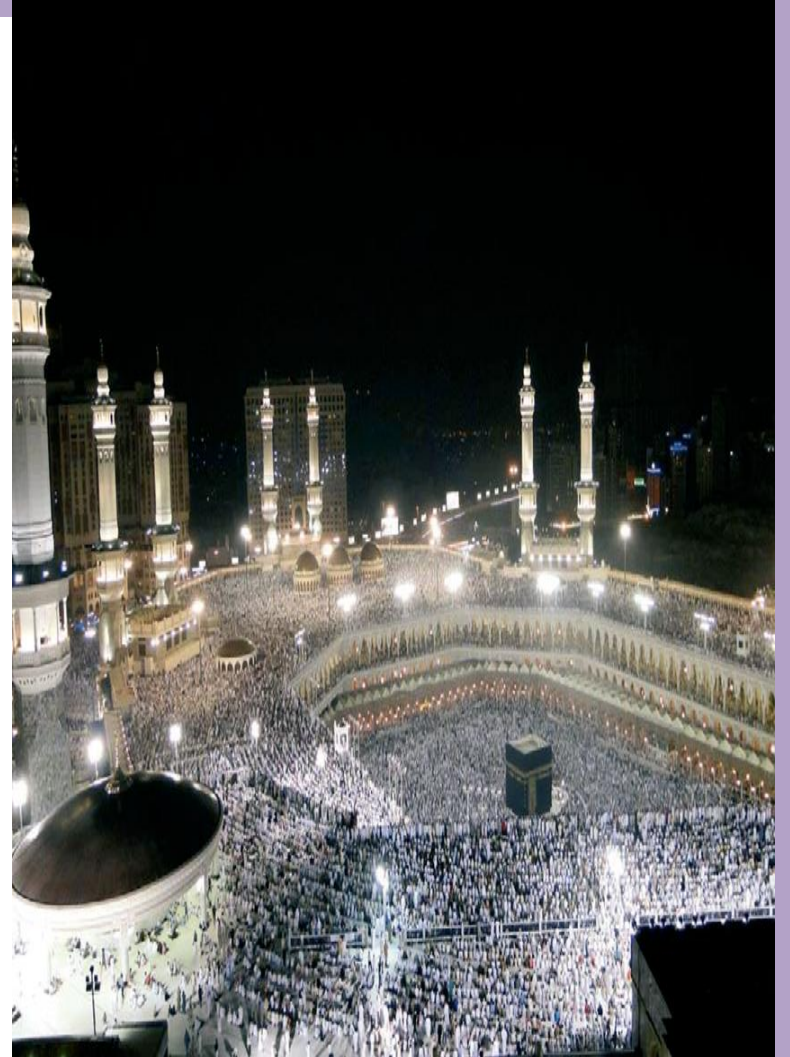
Table 2. Rates of Pneumococcal Pneumonia and Invasive Pneumococcal Disease Among Healthy, At-Risk, and High-Risk Adults

	No. of Person-Years			Pneumococcal Pneumonia						Invasive Pneumococcal Disease					
				Age 18–49 Years		Age 50–64 Years		Age ≥65 Years		Age 18–49 Years		Age 50–64 Years		Age ≥65 Years	
	Age 18–49 Years	Age 50–64 Years	Age ≥65 Years	Rate per 100K	Rate Ratios* (95% CI)	Rate per 100K	Rate Ratios* (95% CI)	Rate per 100K	Rate Ratios* (95% CI)	Rate per 100K	Rate Ratios* (95% CI)	Rate per 100K	Rate Ratios* (95% CI)	Rate per 100K	Rate Ratios* (95% CI)
High-risk	1 111 272	1 951 128	1 774 181	103	7.3 (6.8–7.7)	149	5.9 (5.6–6.1)	290	4.3 (4.1–4.5)	18.5	10.1 (8.7–11.8)	30.8	6.9 (6.2–7.6)	36.7	4.4 (3.9–5.0)
Chronic renal failure	122 921	233 166	344 160	197	13.9 (12.2–15.8)	285	4.2 (4.0–4.4)	438	6.5 (6.1–6.9)	26.8	14.6 (10.3–20.7)	57.9	13.0 (10.8–15.6)	50	6.0 (5.0–7.2)
Cochlear implant	1211	1306	1144	165	11.7 (2.9–46.6)	0	-	262	3.9 (1.3–12.1)	0	-	0	-	87.4	10.5 (1.5–74.8)
Congenital immunodeficiency	37 780	38 991	14 392	265	18.7 (15.3–22.8)	418	16.4 (14.1–19.2)	632	9.4 (7.6–11.6)	68.8	37.5 (25.4–55.4)	105.2	2.2 (1.5–3.4)	118.1	14.2 (8.8–23.1)
Diseases of white blood cells	55 679	94 123	46 869	237	16.7 (14.1–19.9)	339	13.3 (11.9–14.9)	565	8.4 (7.4–9.5)	52.1	28.4 (19.6–41.1)	68	15.3 (11.8–19.6)	110.9	13.3 (10.0–17.8)
Functional/anatomic asplenia	53 464	55 834	42 976	346	24.4 (21.1–28.3)	464	18.3 (16.1–20.7)	710	10.5 (9.4–11.9)	59.9	32.6 (22.9–46.4)	125.4	28.1 (22.1–35.9)	116.3	14.0 (10.5–18.7)
HIV	109 093	84 091	7306	138	9.8 (8.3–11.5)	165	6.5 (5.5–7.7)	329	4.9 (3.3–7.3)	40.3	22.0 (16.2–29.8)	54.7	12.3 (9.1–16.5)	27.4	3.3 (0.8–13.2)
Immunosuppressive drugs/conditions	840 806	1 654 970	1 523 021	100	7.1 (6.6–7.6)	148	5.8 (5.5–6.1)	278	4.1 (4.0–4.3)	15.5	8.4 (7.0–10.1)	28.9	6.5 (5.8–7.2)	36.4	4.4 (3.9–5.0)

İNVAZİV HASTALIK İÇİN RİSK FAKTÖRLERİ

Low birth weight (<2500 g)	10	7	.010	1.6 (1.2–2.2)
Chronic medical conditions (any)	11.3	4.2	<.001	3.3 (2.4–4.5)
Chronic lung condition	1.3	0.6	.020	3.5 (1.5–8.0)
Heart disease	4.4	1.5	<.001	3.5 (2.1–5.7)
Diabetes	0.0	0.1	—	Not measured
Kidney disease (no dialysis)	0.8	0.2	.040	3.6 (1.1–11.4)
Immunocompromising condition (any)	11.3	2.7	<.001	4.9 (3.4–6.9)
Asplenia	0.4	0.1	.090	3.9 (0.6–23.5)
Immune system disorder or HIV/AIDS	2.8	0.2	<.001	14.5 (5.7–36.8)
Bone marrow or organ transplant	0.8	0.0	—	Not measured
Nephrotic syndrome or renal failure	0.9	0.1	.003	14.7 (2.9–76)
Cancer	2.80	0.04	<.001	78.0 (10.2–593)
Cerebrospinal fluid leak	0.0	0.0	—	—
Sickle cell disease	1.0	0.2	.002	5.6 (1.6–19.4)
Systemic steroid use	9.2	4.5	<.001	2.2 (1.6–3.0)
Asthma	27	18	<.001	1.8 (1.5–2.2)
Congenital/developmental disorders	6	1	<.001	4.9 (3.0–8.0)
Antibiotics prescribed within 30 d before case IPD onset	29	19	<.001	1.8 (1.4–2.1)

- Hac ve Ümre ziyaretleri pnömokok enfeksiyonları için risk faktörümüdür?
 - Kalabalık
 - Farklı toplumlardan insanlar biraraya geliyor
 - Yaş
 - Kronik hastalık varlığı



BMC Infectious Diseases



Research article

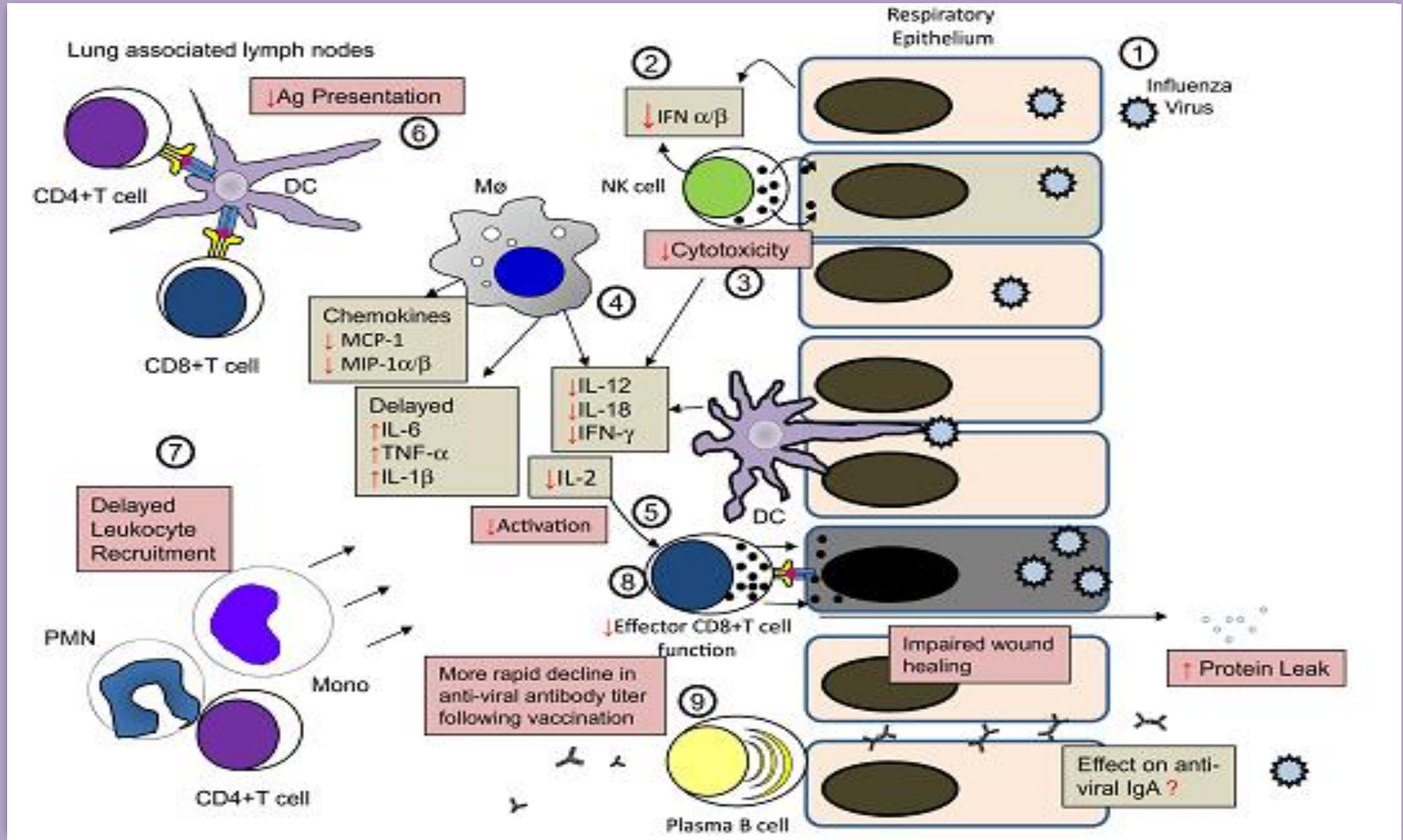
Open Access

Obesity and smoking are factors associated with poor prognosis in patients with bacteraemia

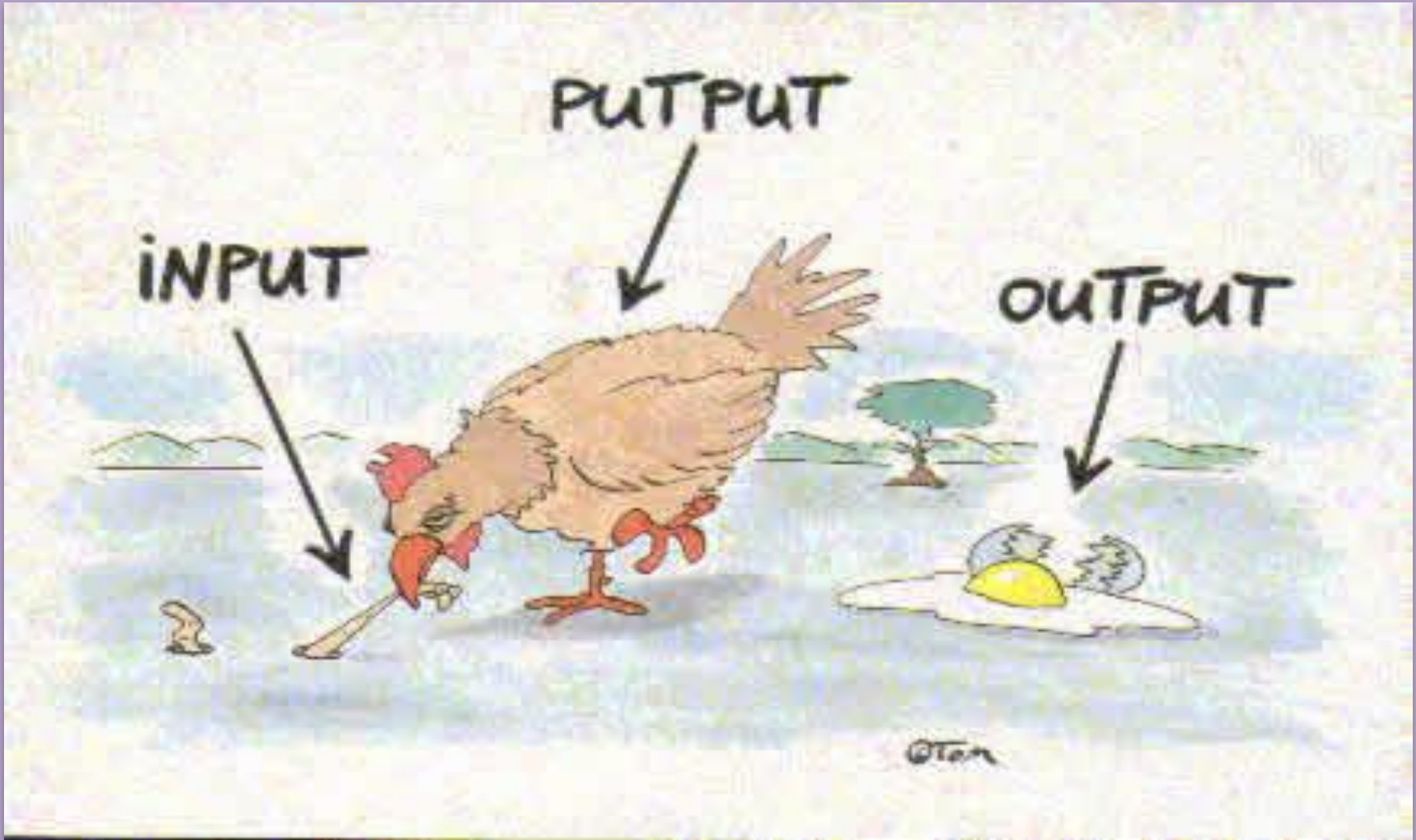
Reetta Huttunen^{*1,2}, Janne Laine¹, Jukka Lumio¹, Risto Vuento³ and Jaana Syrjänen^{1,2}

Obesity and smoking, in addition to mechanical and physiological stress, have an immunological abnormalities characterised by chronic, low-grade inflammation. Simultaneous up-regulation and dysregulation of both innate and adaptive immune responses impair control and killing of invading organisms. Prevention in those at risk is poorly practised, although screening for tuberculosis in diabetes is beginning in high-burden settings.

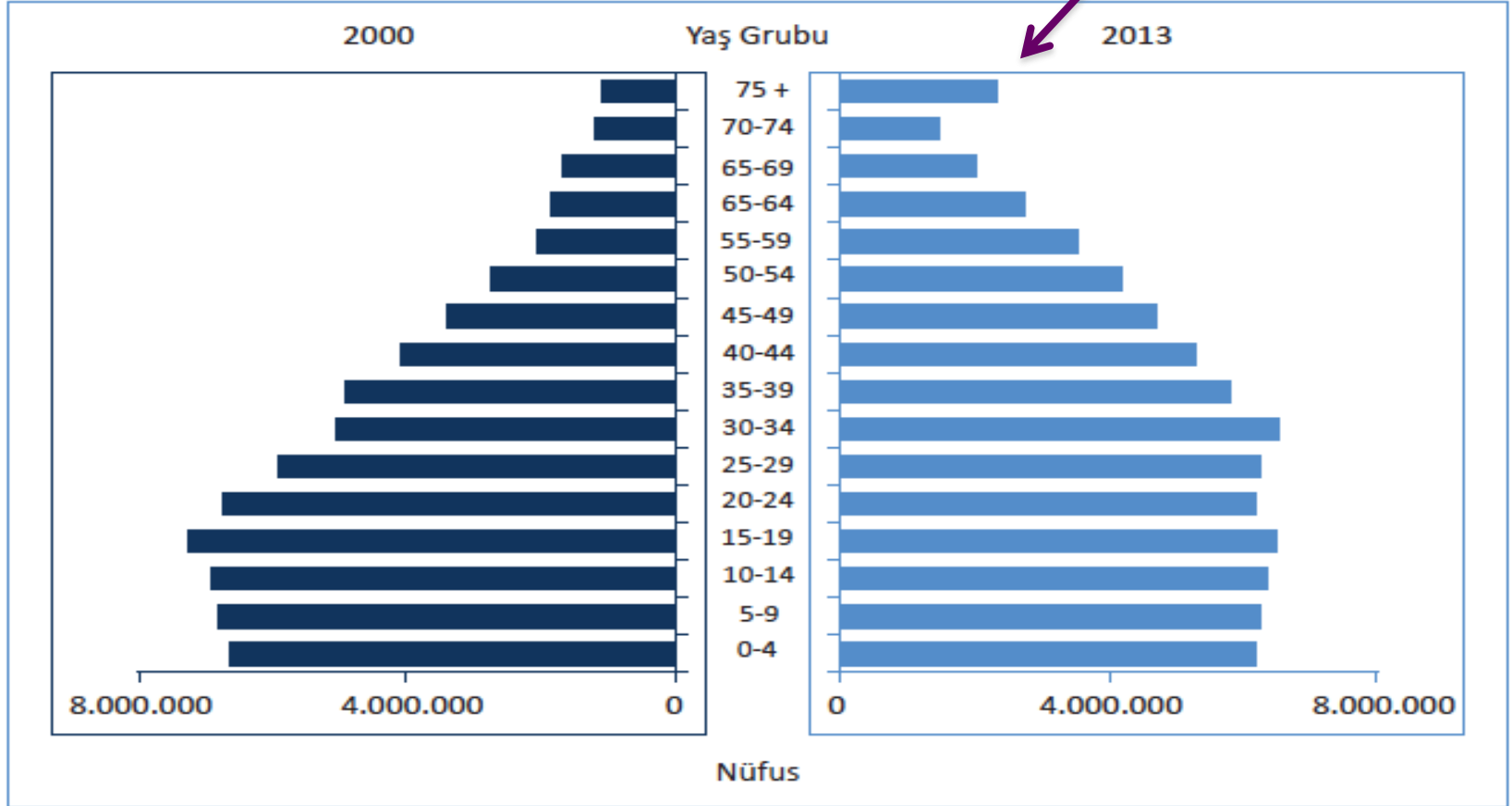
İNVAZİV HASTALIK İÇİN RİSK FAKTÖRLERİ



KANITA DAYALI TIP

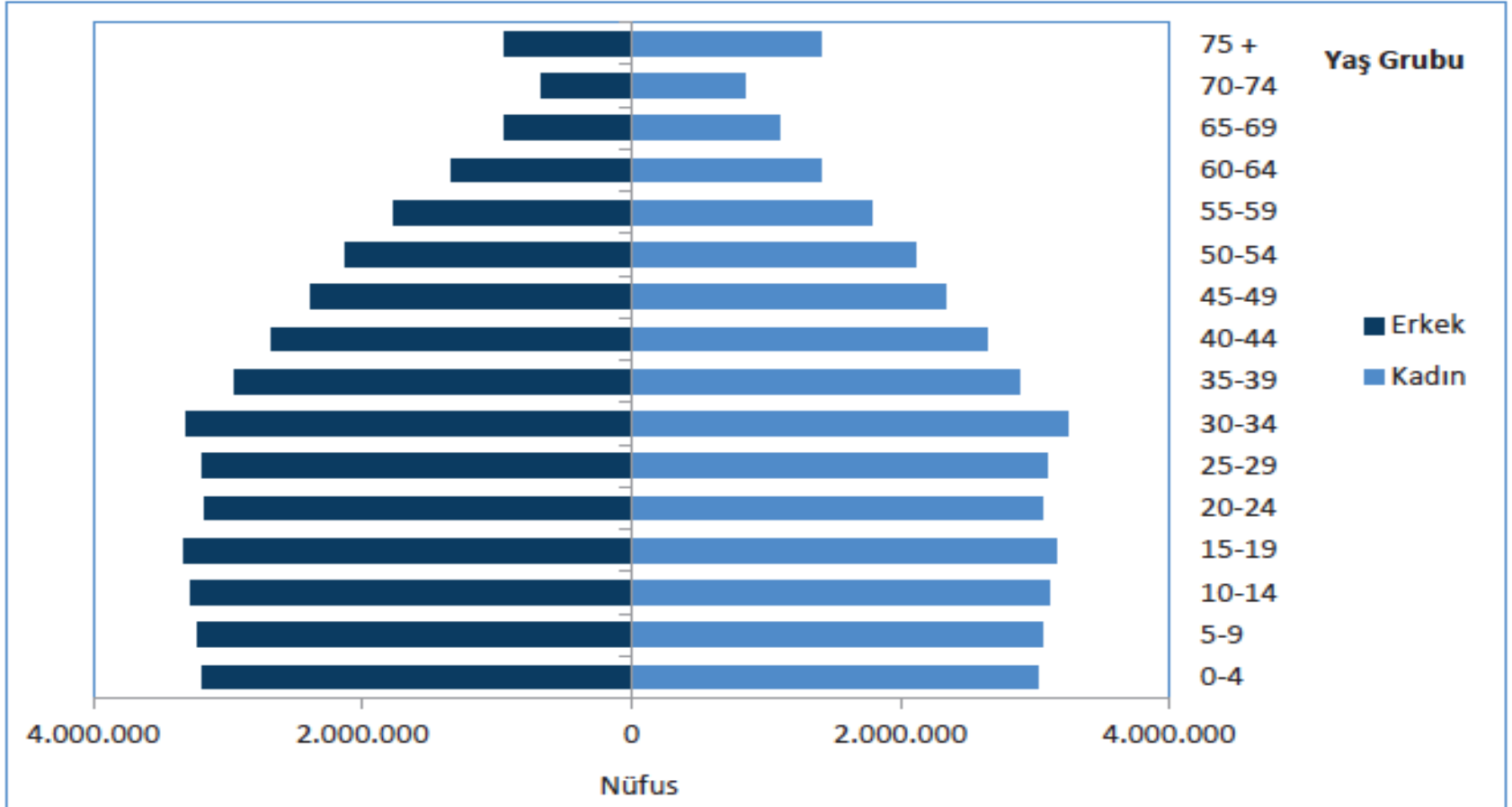


Şekil 1.1. Nüfus Piramidi, Toplam, Türkiye, 2000, 2013



Kaynak: TÜİK

Şekil 1.2. Nüfus Piramidi, Türkiye, 2013



Kaynak: TÜİK

Tablo 1.1. Genel Demografik Göstergeler, Türkiye

	1990	2000	2010	2011	2012	2013
Toplam Nüfus	56.473.035	67.803.927	73.722.988	74.724.269	75.627.384	76.667.864
Kırsal Nüfus Oranı (%)	48,7	40,8	29,0	28,2	27,7	13,3
Kentsel Nüfus Oranı (%)	51,3	59,2	71,0	71,8	72,3	86,7
0-14 Yaş Nüfus Oranı (%)	35,0	29,8	25,6	25,3	24,9	24,6
65 Yaş ve Üzeri Nüfus Oranı (%)	4,3	5,7	7,2	7,3	7,5	7,7
Genç Bağımlılık Oranı (0-14 Yaş) (%)	57,6	46,3	38,1	37,5	36,9	36,3
Yaşlı Bağımlılık Oranı (65 Yaş ve Üzeri) (%)	7,0	8,8	10,8	10,9	11,1	11,3
Toplam Yaş Bağımlılık Oranı (%)	64,7	55,1	48,9	48,4	48,0	47,6
Yıllık Nüfus Artış Hızı (‰)	21,7	18,3	15,9	13,5	12,0	13,7
Kaba Doğum Hızı (‰)	24,1	21,6	17,2	16,8	17,1	16,9
Kaba Ölüm Hızı (‰)	7,1	7,3	5,0	5,1	5,0	4,9
Toplam Doğurganlık Hızı (Kadın Başına)	2,9	2,5	2,1	2,0	2,1	2,1

Kaynak: TÜİK

Tablo 3.5. Yıllara Göre Kadınlarda En Sık Görülen 10 Kanser Türünün İnsidansı, (100.000’de, Dünya Standart Nüfusu), Türkiye

	2002	2003	2004	2005	2006	2007	2008	2009
Meme	31,9	33,9	34,7	35,0	37,6	35,9	40,7	40,6
Tiroid	3,5	5,1	7,3	9,6	10,8	14,4	16,2	18,6
Kolorektal	9,3	10,3	11,3	11,1	12,5	12,3	13,2	13,4
Uterus Korpusu	4,3	5,9	7,6	7,1	8,4	8,7	8,6	9,3
Trakea, Akciğer ve Bronş	5,2	5,8	7,4	7,4	7,7	7,8	8,2	8,1
Mide	6,0	6,9	6,4	6,9	7,6	8,4	7,7	8,1
Over	5,9	6,2	5,8	5,6	5,9	6,5	6,9	6,9
Non-Hodgkin Lenfoma	1,2	1,4	4,4	4,0	4,9	5,2	5,0	5,3
Beyin, Diğer Sinir Sistemi	3,8	4,2	3,6	4,0	4,6	4,6	4,4	5,0
Uterus Serviksi	3,9	4,7	4,5	4,4	4,8	4,3	4,1	4,5

Kaynak: Türkiye Halk Sağlığı Kurumu

Tablo 3.6. Yıllara Göre Erkeklerde En Sık Görülen 10 Kanser Türünün İnsidansı, (100.000’de, Dünya Standart Nüfusu), Türkiye

	2002	2003	2004	2005	2006	2007	2008	2009
Trakea, Akciğer ve Bronş	42,2	43,5	65,1	65,9	68,9	73,0	69,2	66,0
Prostat	11,5	14,0	24,9	28,6	28,9	32,3	37,6	36,1
Mesane	12,4	13,7	19,3	20,6	21,0	22,5	21,7	21,4
Kolorektal	11,8	13,8	16,5	16,2	18,2	19,1	20,8	21,0
Mide	11,6	12,0	14,1	14,9	14,8	17,3	18,0	16,2
Larinks	6,9	8,4	10,0	8,9	9,7	9,3	9,1	8,1
Non-Hodgkin Lenfoma	1,4	2,5	6,3	5,9	6,9	7,6	6,9	7,2
Böbrek	3,0	3,2	4,1	4,1	5,5	5,2	5,8	6,3
Pankreas	3,1	3,1	4,0	4,4	5,2	6,3	6,1	5,4
Beyin, Diğer Sinir Sistemi	5,3	4,7	4,7	5,7	5,4	5,8	6,1	5,4

Kaynak: Türkiye Halk Sağlığı Kurumu

Tablo 3.14. Onbeş Yaş ve Üzeri Bireylerde Hastalık/Sağlık Sorunu Yaşadıklarını Belirtenlerin Cinsiyet ve Yerleşim Yerine Göre Dağılımı, (%), 2012

Hastalık /Sağlık Sorunu	Kır			Kent			Türkiye		
	Erkek	Kadın	Toplam	Erkek	Kadın	Toplam	Erkek	Kadın	Toplam
Hipertansiyon	10,9	22,1	16,7	7,8	15,4	11,6	8,7	17,6	13,2
Şeker Hastalığı	6,3	8,4	7,4	5,3	7,8	6,6	5,6	8,0	6,8
Koroner Kalp Hastalığı (Anjina, Göğüs Ağrısı, Spazm)	5,6	5,6	5,6	3,7	4,0	3,9	4,3	4,5	4,4
Kronik Obstrüktif Akciğer Hastalığı, Amfizem	3,7	4,4	4,0	2,3	2,6	2,5	2,7	3,2	3,0
Kronik Kalp Yetmezliği	1,2	2,0	1,6	0,8	1,4	1,1	0,9	1,6	1,3
Enfarktüs (Kalp Krizi)	1,4	0,9	1,1	1,2	0,6	0,9	1,2	0,7	1,0
İnme-felç (Beyin Kanaması, Serebral Tromboz)	1,4	1,2	1,3	0,7	0,9	0,8	0,9	1,0	0,9

Tablo 4.1. Bireylerin Tütün ve Tütün Mamulü Kullanma Durumunun Cinsiyet ve Yerleşim Yerine Göre Dağılımı, 2012

Tütün ve Tütün Mamulü Kullanma Durumu	Kır			Kent			Türkiye		
	Erkek	Kadın	Toplam	Erkek	Kadın	Toplam	Erkek	Kadın	Toplam
Her Gün Kullanan	33,3	4,7	18,9	38,9	13,0	25,7	37,3	10,7	23,8
Ara Sıra Kullanan	4,2	2,0	3,1	4,1	2,6	3,3	4,1	2,4	3,3
Kullanmayan/ Hiç Kullanmamış Olan	62,5	93,3	78,0	57,0	84,5	71,0	58,5	86,9	72,9

Kaynak: TÜİK ve Sağlık Bakanlığı, Küresel Yetişkin Tütün Araştırması 2012

Tablo 4.5. Onbeş Yaş ve Üzeri Bireylerde Beyana Dayalı Vücut Kitle İndeksinin Cinsiyet ve Yerleşim Yerine Göre Dağılımı, (%), 2012

	Kır			Kent			Toplam		
	Erkek	Kadın	Toplam	Erkek	Kadın	Toplam	Erkek	Kadın	Toplam
Düşük Kilolu	2,4	4,7	3,5	2,7	5,3	4,0	2,7	5,1	3,9
Normal Kilolu	44,7	42,2	43,4	44,7	44,2	44,5	44,7	43,6	44,2
Fazla Kilolu	38,1	32,1	35,2	39,4	29,7	34,6	39,0	30,4	34,8
Obez	14,8	21,1	17,9	13,3	20,8	17,0	13,7	20,9	17,2

Kaynak: TÜİK, Sağlık Araştırması 2012

İlaç tüketimi açısından;

2006 yılında reçete ile tüketilen ilaçların %14'ünü solunum sistemi hastalıklarına ait ilaçlar oluşturmaktadır. Öte yandan Türkiye'de en çok tüketilen (%17) ilaç olan antibiyotiklerin önemli bir kısmı da solunum sistemi hastalıkları için kullanılmaktadır.

Yatan hasta sayısı açısından;

2004 rakamlarıyla 211.545 hasta bronşit, amfizem, astım; 111.637 hasta diğer pnömoniler; 106.406 hasta akut solunum enfeksiyonu; 52.865 hasta akciğer kanseri; 27.521 hasta tüberküloz; 18.271 hasta venöz tromboz ve emboli; 13.890 hasta ampiyem; 5.419 hasta viral pnömoni ve 218.373 hasta solunum sisteminin diğer hastalıkları nedeniyle hastaneye yatırılmıştır. 2004 yılı verileri dikkate alındığında solunum sistemi hastalıkları nedeniyle Türkiye'de toplamı 767.954 hasta yatırılmış ve bu hastalarda 14.630'u kaybedilmiştir. Mevcut veriler Türkiye'de hastane yatışlarının %12,8'inin solunum sisteminden kaynaklandığını göstermektedir.



ölmevalla

SON DURAK HİZMETLERİ

Cenazelerde ve Acılı Günlerinizde Beş Bayan
Beş Erkek Ağlama Ekibi Gönderilir.

Ali Tokur

İş :

Cep :

İncilipınar Yeni Mah. No. 71

DENİZLİ

Risk faktörü	OR (% 95 CI)	P
Yaş > 65 yıl	2.9 (1.6-5.2)	0.0004
Ciddi hastalık *	21.1 (12.5-35.6)	0.0001
İmmünsüpresyon	3.1 (1.8-5.3)	0.0001
Penisilin duyarlılığı	1.4 (0.8-2.4)	0.19

Table 4

Independent risk factors for death in pneumococcal meningitis (multivariate logistic regression analysis)

	Adjusted OR	95% CI
Male gender	0.480	0.221–1.041
Empirical vancomycin use	2.159	0.949–4.912
Meningitis due to penicillin-susceptible pneumococcus	0.441	0.195–0.996
Age >50 years	3.908	1.820–8.390
Critical case ^a	7.089	3.230–15.557
Constant	0.0711	0.024–0.206

Aysun Yaıcı^{oo}, Yasemin Akkoyunlu^{mm}, Emisal Aydınⁿⁿ, Hüseyin Diktas^{pp}, Sukran Köse^{qq}, Asim Ulcay^a, Derya Seyman^c, Umit Savasci^{oo}, Hakan Leblebicioglu^m, Haluk Vahaboglu^{bb}



ELSEVIER

Mortality
implications

Table 4

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Critical case ^a	7.089	3.230–15.557
Constant	0.0711	0.024–0.206

OR, odds ratio; CI, confidence interval; ICU, intensive care unit; GCS, Glasgow coma scale.

^a Defined as a case admitted to the ICU or a non-ICU case with a poor GCS score (≤ 8).



- Serotip dağılımı dünyada farklılıklar göstermektedir.
- Tüm serotiplerin patojen olma potansiyelleri farklı
- Hastalık etkeni olan izolatlar genelde 30 serotip (94 serotip içerisinde)
- Serotipler yaşa bağlı olarak değişim göstermektedir.
 - Yaşa bağlı değişen kronik hastalıkları
- Serotipler zamana bağlı olarak değişim göstermektedir.
- Aşılama stratejileri
- Antibiyotik kullanım politikaları
- Sosyoekonomik koşullar
- Kan kültür alım alışkanlıkları

PNÖMOKOKAL TOPLUM KAYNAKLI PNÖMONİLERDE SEROTİP SIKLIĞI

(Esposito S et al. Vaccine 2003)

Serotip	N (%)
1	16 (31.4)
14	11 (21.6)
9V	6 (11.8)
4	4 (7.8)
6B	4 (7.8)
19F	4 (7.8)
18C	3 (5.9)
23F	2 (3.9)
5	1 (2.0)

Clinical and Vaccine
Immunology

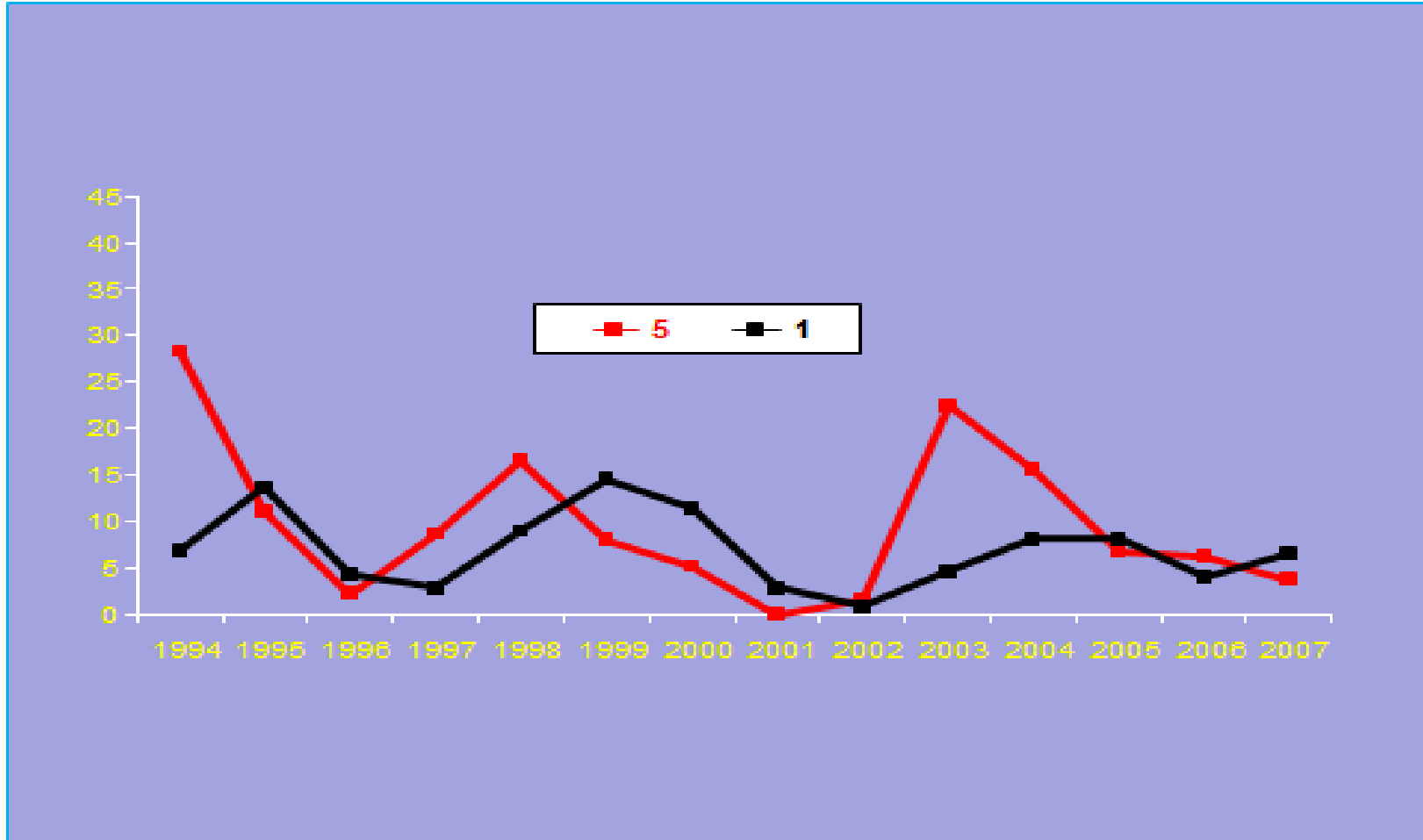
Distribution of *Streptococcus pneumoniae* Serotypes That Cause Parapneumonic Empyema in Turkey

Mehmet Ceyhan, Yasemin Ozsurekci, Nezahat Gürler, Sengul Ozkan, Gulnar Sensoy, Nursen Belet, Mustafa Hacimustafaoglu, Solmaz Celebi, Melike Keser, Ener Cagri Dinleyici, Emre Alhan, Ali Baki, Ahmet Faik Oner, Hakan Uzun, Zafer Kurugol, Ahmet Emre Aycan, Venhar Gurbuz, Eda Karadag Oncel, Melda Celik and Aslinur Ozkaya Parlakay

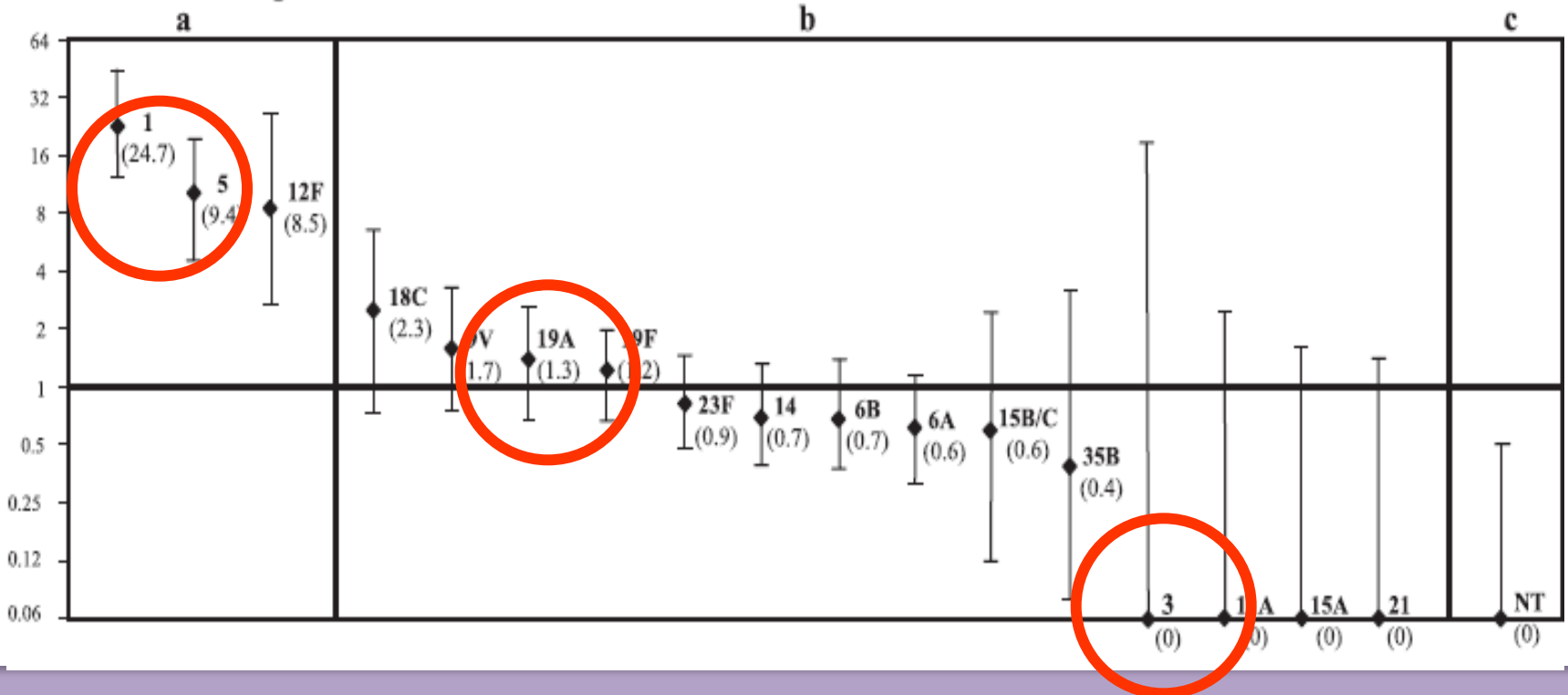
Clin. Vaccine Immunol. 2013, 20(7):972. DOI:
10.1128/CVI.00765-12.

Published Ahead of Print 1 May 2013.

SEROTİPLER ARASINDAKİ FARKLILIKLAR



Serotiplerin invaziv hastalık oluşturma kapasiteleri arasında belirgin farklılıklar mevcut



Association of Serotype with Risk of Death Due to Pneumococcal Pneumonia: A Meta-Analysis

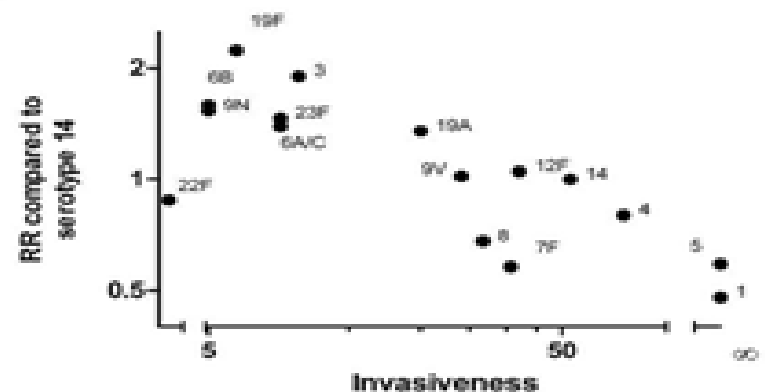
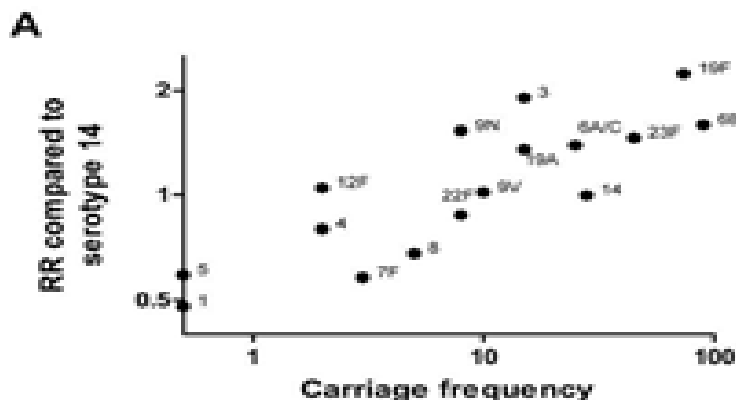
Daniel M. Weinberger,¹ Zitta B. Harboe,^{4,2} Elisabeth A. M. Sanders,² Moses Ndiritu,¹⁰ Keith P. Klugman,^{3,12} Simon Rückinger,² Ron Dagan,¹³ Richard Adegbola,¹¹ Felicity Cutts,¹¹ Hope L. Johnson,⁴ Katherine L. O'Brien,³ J. Anthony Scott,¹⁰ and Marc Lipsitch²

Clinical Infectious Diseases 2010; 51(5):652–659

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1058-4838/2010/5106-0008\$15.00

DOI: 10.1093/cid/cir228



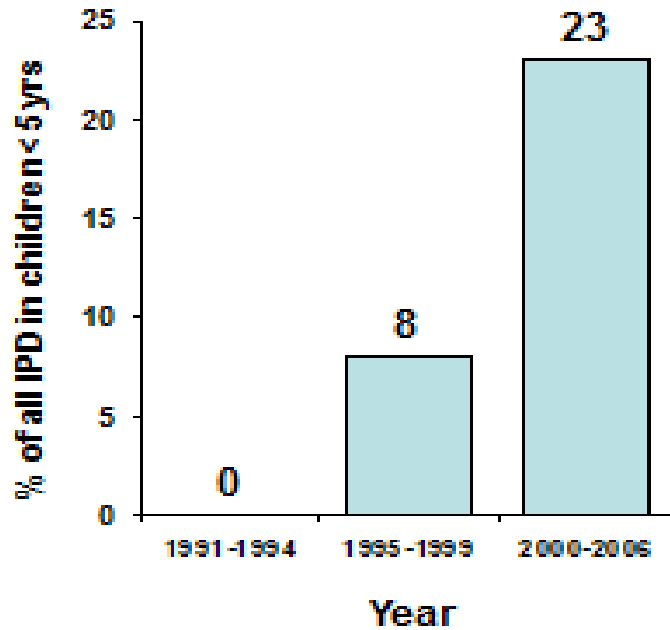
Serotype 7F invaziv Hastalık riski ve fatalite hızı en yüksek

Table 1: Serotype specific case fatality rates and standardized mortality ratios (95% Confidence Interval) for 494 children with IPD in Germany between 1997 and 2003

Serotype	Observed cases of IPD	Expected deaths	Observed deaths	case fatality rate %	SMR ^a (95% CI)
7F	27	1.3	4	14.8	3.1 (1.2-8.2)
23F ^b	35	1.7	3	8.6	1.8 (0.6-5.5)
3	12	0.6	1	8.3	1.7 (0.2-11.8)
6A	14	0.7	1	7.1	1.4 (0.2-10.1)
9V ^b	17	0.8	1	5.9	1.3 (0.2-8.9)
14 ^b	146	7.1	9	6.2	1.3 (0.7-2.4)
4 ^b	19	0.9	1	5.3	1.1 (0.3-4.2)
6B ^b	38	1.9	2	5.3	1.1 (0.2-7.9)
Other	72	3.5	3	4.2	0.9 (0.3-2.7)
19F ^b	30	1.5	1	3.3	0.7 (0.1-4.7)
1	24	1.2	0	0	-
18C ^b	36	1.8	0	0	-
19A	17	0.8	0	0	-



Güney Kore

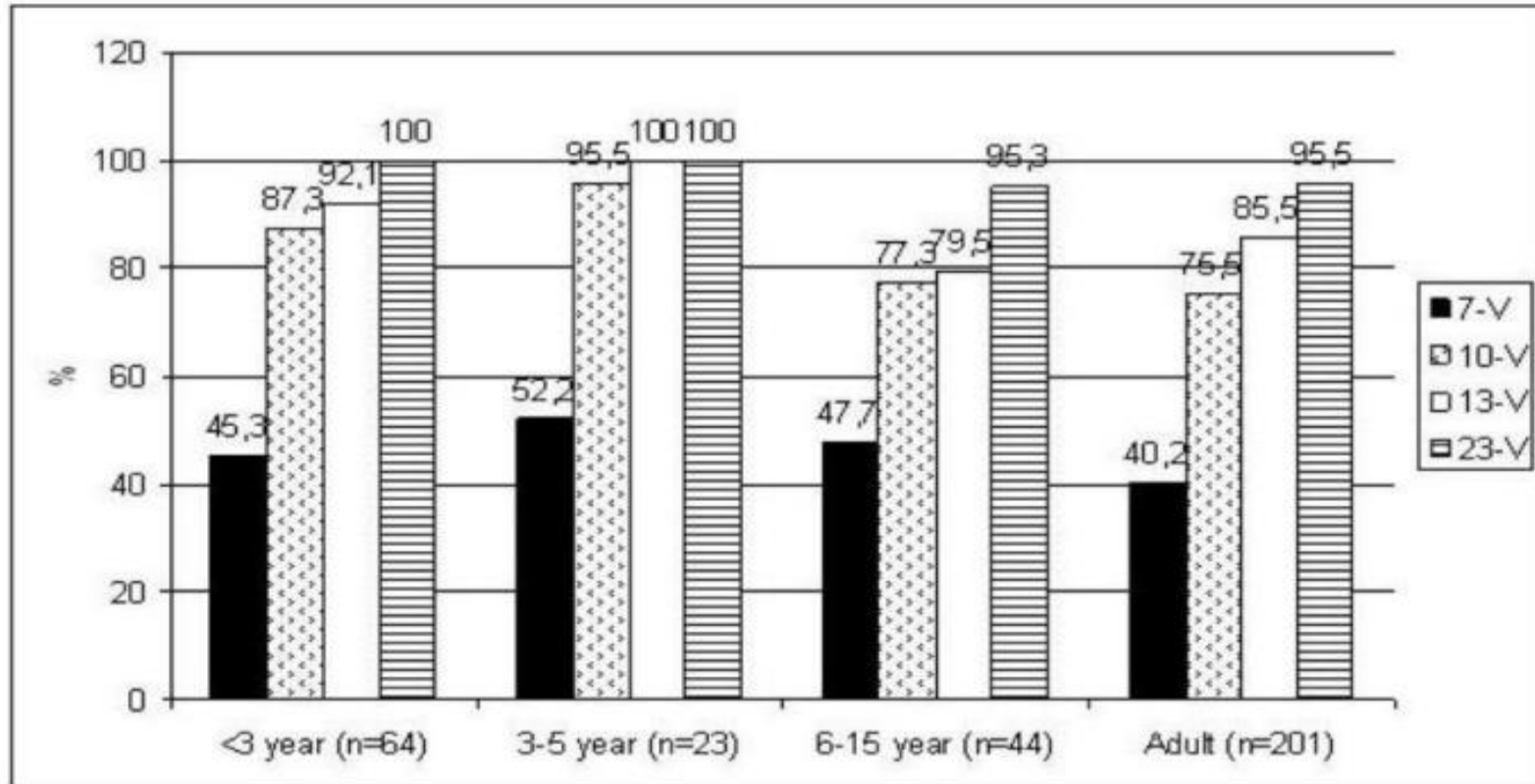


- Tüm 19A, çoğul antibiyotik dirençli
- ST 320

Serotype 19A'ya bağlı IPD'de aşı
Güney Kore'de kullanılmadan önce
Artış göstermekte.

Original Article

Ten-year surveillance of invasive *Streptococcus pneumoniae* isolates in central Turkey prior to the introduction of a conjugate vaccine



J Chemother. 2014 Feb 18:1973947814Y0000000176. [Epub ahead of print]

Invasive pneumococci before the introduction of pneumococcal conjugate vaccine in Turkey: antimicrobial susceptibility, serotype distribution, and molecular identification of macrolide resistance.

Altun HU, Hascelik G, Gür D, Eser OK.

Abstract

This study evaluates the antimicrobial susceptibilities and serotype distributions of invasive *Streptococcus pneumoniae* (SP) isolates identified in a Turkish hospital before the introduction of the 7-valent pneumococcal conjugate vaccine (PCV7). The susceptibilities of all isolates were determined by evaluating six antibiotics: penicillin (PEN), ceftriaxone (CRO), levofloxacin (LEV), erythromycin (ERY), clindamycin (CD), and vancomycin (VAN). Serotyping and amplification of macrolide resistance genes were performed. Sixteen (50%) and four (2%) isolates were resistant to PEN and LEV, respectively. No isolates demonstrated VAN resistance. Intermediate resistance to CRO was found in 4% of all invasive isolates. Twenty-three (12.6%) isolates were resistant to ERY. Four (2%) invasive SP isolates demonstrated multidrug resistance. Serogroups 3, 5, 6, 8, 9, and 23 were the most common in both age groups. The potential coverage rates of PCV7 and PCV13 were 44.1 and 66.1% in children and 39.8 and 71.5% in adults, respectively. Continuous surveillance of antimicrobial resistance is required.

KEYWORDS: Antimicrobial resistance,; PCR,; PCV13,; PCV7,; Serotype,; *Streptococcus pneumoniae*

- Hasçelik ve ark. (2015)
- Türkiye'de 8 merkezde
- 2005-2011 arasında invaziv SP izolatları
- 176 *S. Pneumoniae*
- En sık **3, 19A, 19F, 6B**



PCV13 is 49.4%.

GLOBAL PROBLEM: Yetersiz Bildirim




RESEARCH ARTICLE

The Burden and Etiology of Community-Onset Pneumonia in the Aging Japanese Population: A Multicenter Prospective Study

Konosuke Morimoto¹^{*}, Motoi Suzuki¹, Tomoko Ishifuji¹, Makito Yaegashi², Norichika Asoh³, Naohisa Hamashige⁴, Masahiko Abe⁵, Masahiro Aoshima⁶, Koya Ariyoshi¹, Adult Pneumonia Study Group - Japan (APSG-J)[¶]

1 Department of Clinical Medicine, Institute of Tropical Medicine, Nagasaki University, Nagasaki, Japan, 2 Department of General Internal Medicine, Kameda Medical Center, Chiba, Japan, 3 Department of Internal Medicine, Juzenkai Hospital, Nagasaki, Japan, 4 Department of Internal Medicine, Chikamori Hospital, Kochi, Japan, 5 Department of General Internal Medicine, Ebetsu City Hospital, Hokkaido, Japan, 6 Department of Pulmonology, Kameda Medical Center, Chiba, Japan

 These authors contributed equally to this work.

[¶] Membership of the Adult Pneumonia Study Group—Japan (APSG-J) is listed in the Acknowledgments.

^{*} komorimo@nagasaki-u.ac.jp



- Penisilin NSP= 40%
- Penisilin rezistan SP= 5-10%
- Erythromycin rezistan 15-20%
- TMP-SMX > 50%
- Tetrasiklin <10%
- Amoksisilin klavulanik asit <5%
- İzolatların büyük bölümü rifampisin, kinolonlar, linezolid, quinupristin-dalfopristin duyarlı

- Eşlik eden hastalık
 - Kardiyovasküler sistem
 - Alkolizm
 - Diabet
 - KOAH
- Yaş
 - < 2 yaş, > 65 yaş
- Son 3 ayda betalaktam antibiyotik kullanımı
- İmmünsüpresyon veya immünsüpresif tedavi
- Kreş çocuğı ile temas

ANTİBİYOTİK DİRENCİ





ÇOCUKLARDA KONJUGE PNÖMOKOK AŞILARI KULLANIMI SONRASI??



Amaç:

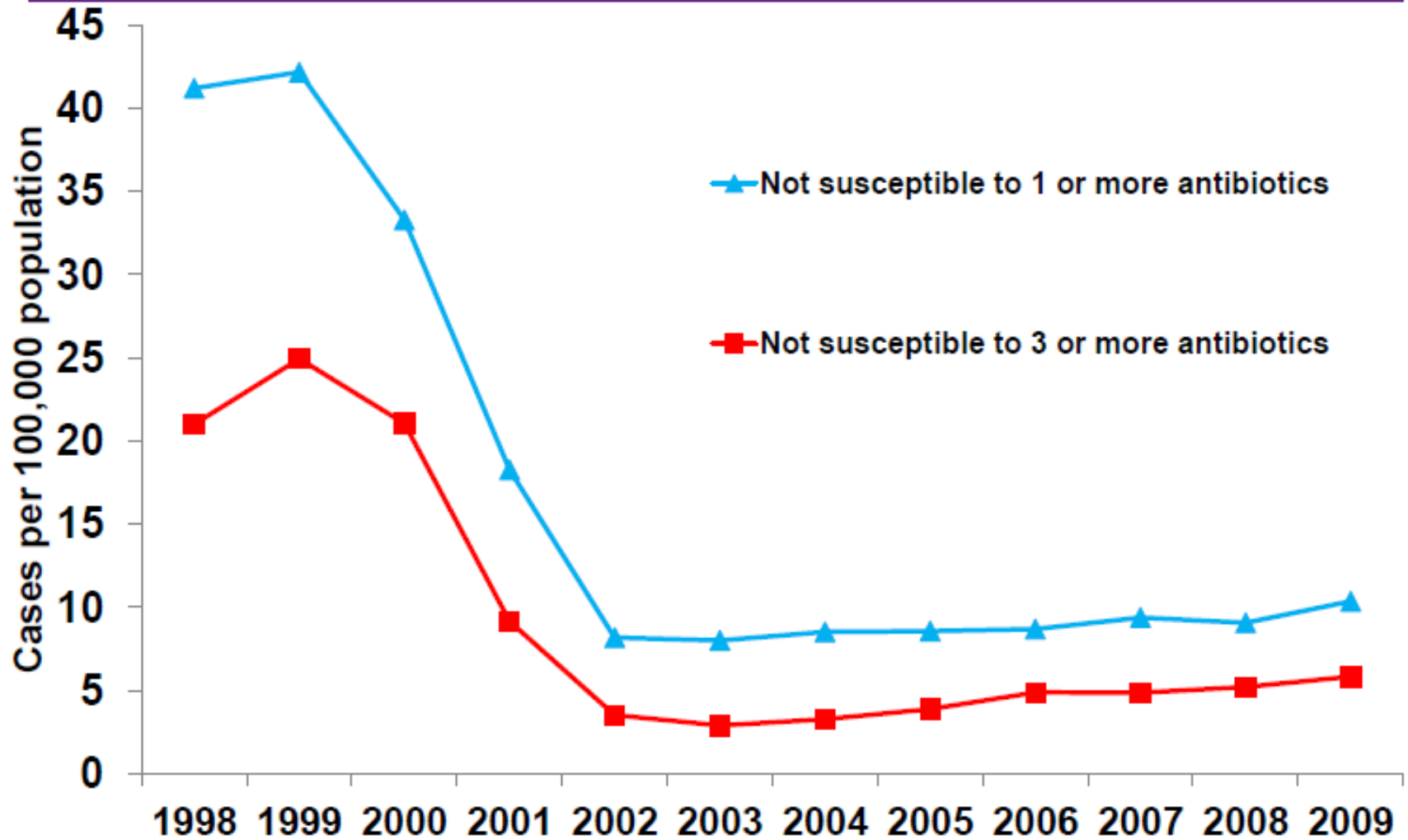
**Hastalıkları
oluşmadan
Önlemek!!!!**

Pneumococcal conjugated vaccines: impact of PCV-7 and new achievements in the postvaccine era

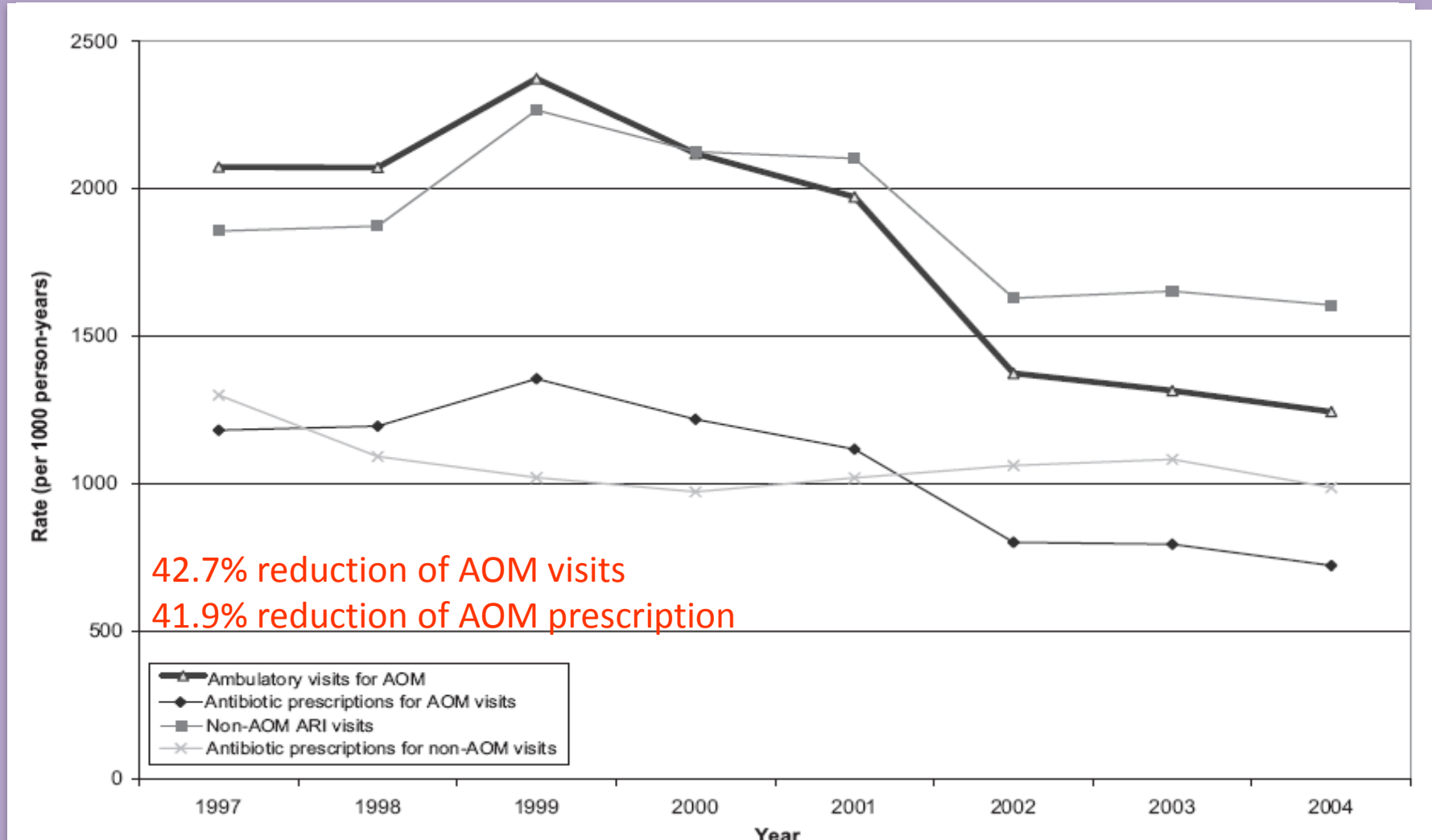
Expert Rev. Vaccines 7(9), 1367–1394 (2008)

- İnvaziv pnömokok enfeksiyonlarında ↓↓
- Menenjitlerde azalma ↓ ↓
- Pnömonilerde azalma ↓
- Otit sayısı ve hastaneye başvuru ↓
- Otit nedeni ile antibiyotik kullanımı ↓
- Herd immunity

ÇOCUKLARDA KONJUGE PNÖMOKOK AŞILARI KULLANIMI SONRASI??



ÇOCUKLARDA KONJUGE PNÖMOKOK AŞILARI KULLANIMI SONRASI??



The dynamic and changing epidemiology of meningococcal disease at the country-based level: the experience in Turkey

Expert Rev. Vaccines 11(5), 00–00 (2012)



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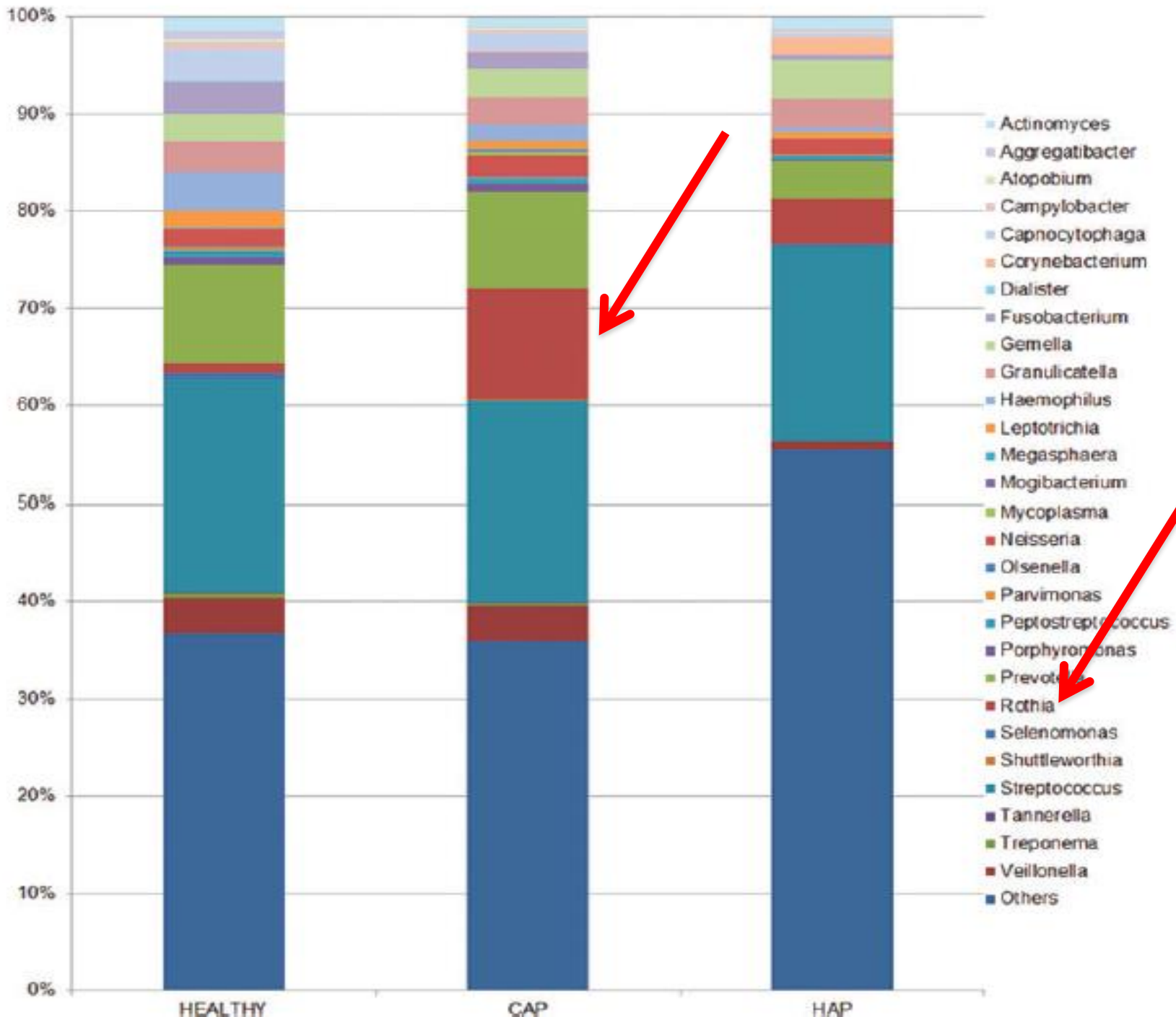
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“Changes in the epidemiology of invasive meningococcal disease over time in Turkey has shown that continued surveillance of meningococcal disease is essential.”

Invasive meningococcal disease (IMD) is an important condition, affecting more than 500,000 people worldwide, resulting in approximately 50,000 deaths and 10–20% severe long-term complications [1,2]. The reported incidence of IMD varies by region, ranging from less than 0.5 cases per 100,000 in North America and less than one case per 100,000 in Europe to 10–1000 cases per 100,000 people during epidemic years in Africa [2]. There

basis of the Turkish Statistical Institute (TurkStat) data, 1982–3985 cases per year were reported as IMD. According to the TurkStat data since 2009, IMD are responsible for 10% of all causes of mortality for children younger than 5 years of age [10]. On the basis of the Ministry of Health (MoH) records, the case numbers are lower than those of the TurkStat reports. Between 1989 and 1999, the incidence of IMD varied between 1 and 35



TOPLUM KAYNAKLI PNÖMONİ MİKROBİYOTA

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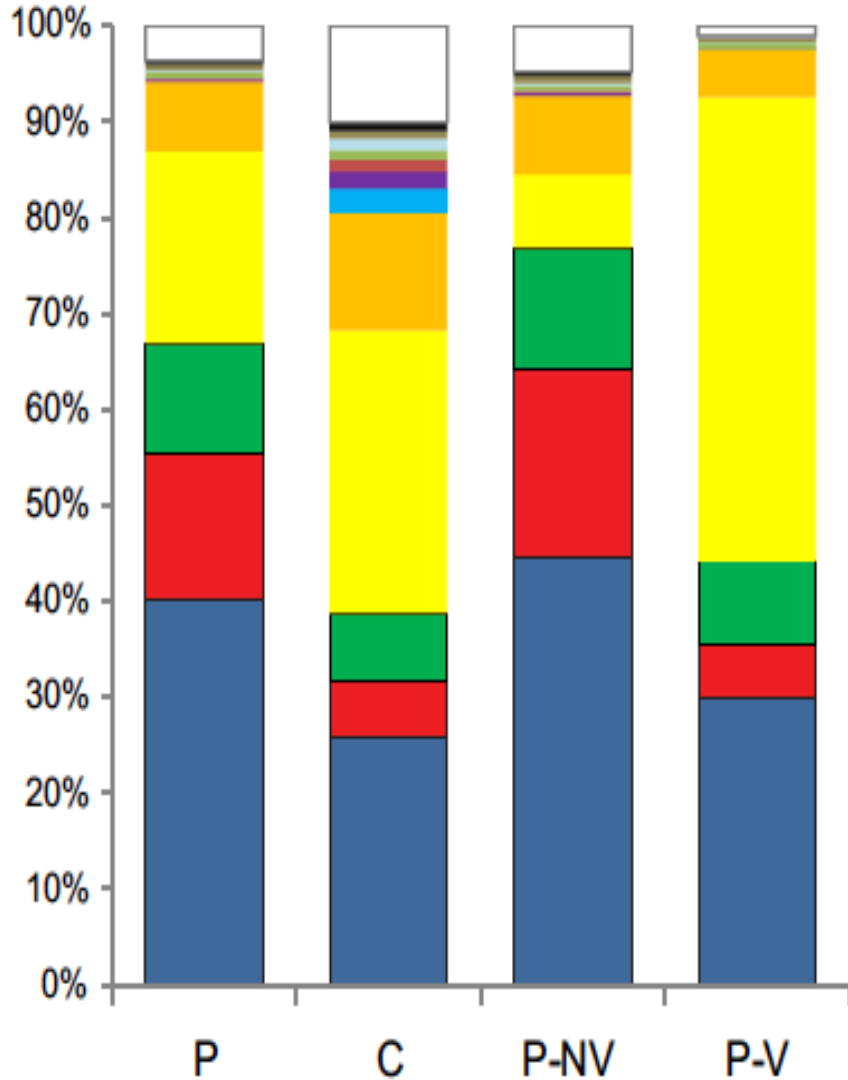
PERSPECTIVE

Human Pharyngeal Microbiome May Play A Protective Role in Respiratory Tract Infections



Zhancheng Gao ^{1,*}, Yu Kang ², Jun Yu ², Lufeng Ren ²

PNÖMONİ MİKROBİYOTA



- Remaining OTUs
- Corynebacterium propinquum / pseudodiphtheriticum
- Lactococcus lactis
- Fusobacterium nucleatum / periodonticum
- Dolosigranulum pigrum
- Veillonella dispar / parvula / atypica
- Neisseria flavescens
- Bordetella hinzii / holmesii / trematum / bronchiseptica
- Moraxella lincolnii
- Moraxella lacunata / nonliquefaciens
- Moraxella catarrhalis
- Streptococcus pneumoniae / mitis / pseudopneumoniae
- Haemophilus influenzae / aegyptius

Seven-Valent Pneumococcal Conjugate Vaccine and Nasopharyngeal Microbiota in Healthy Children

Giske Biesbroek, Xinhui Wang,¹ Bart J.F. Keijser,¹ Rene M.J. Eijkemans, Krzysztof Trzciński, Nynke Y. Rots, Reinier H. Veenhoven,² Elisabeth A.M. Sanders, and Debby Bogaert

lands. PCV-7 immunization resulted in a temporary shift in microbial community composition and increased bacterial diversity. Immunization also resulted in decreased presence of the pneumococcal vaccine serotype and an increase in the relative abundance and presence of nonpneumococcal streptococci and anaerobic bacteria. Furthermore, the abundance of *Haemophilus* and *Staphylococcus* bacteria in vaccinees was increased over that in controls. This study

BİLGİ DÜZEYİ

			%
Kişilerden	Bilgi Alma Durumu	Evet	81,9
		Hayır	18,1
	Bilgi Kaynağı <i>(Her satır için toplam kişi üzerinden yüzde alınmıştır)</i>	Sağlık Çalışanları	85,4
		Aile Çevresi	17,9
		Eczacı	7,0
		Arkadaşlar	5,6
		Komşular	1,3
		Okul Çevresi	0,8
		İşyerinde Arkadaşlar	0,4
		İletişim Araçlarından	Bilgi Alma Durumu
Hayır	29,5		
Bilgi Kaynağı <i>(Her satır için toplam kişi üzerinden yüzde alınmıştır)</i>	Televizyon		76,4
	İnternet		26,8
	Gazeteler		10,0
	Cep Telefonları, Akıllı Telefonlar		8,3
	Radyo		3,2
	Afişler		2,8
	Broşürler		2,5
	Dergiler		2,4
Kitaplar	2,4		
Reklam Panoları	1,4		

← YANLIŞ

ÇOK YANLIŞ →

“TO DO IS TO BE” -Nietzsche

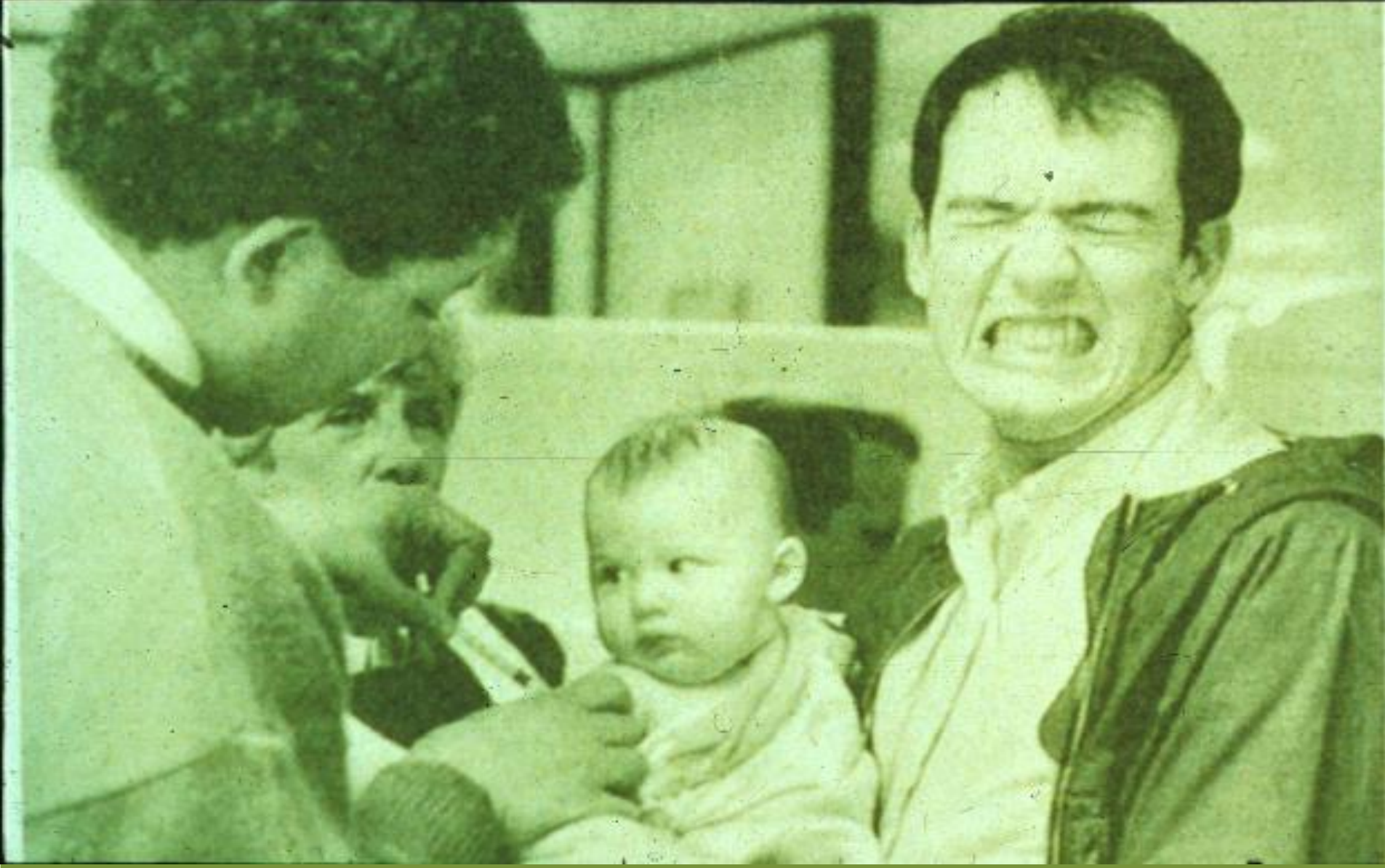
“TO BE IS TO DO” -Kant

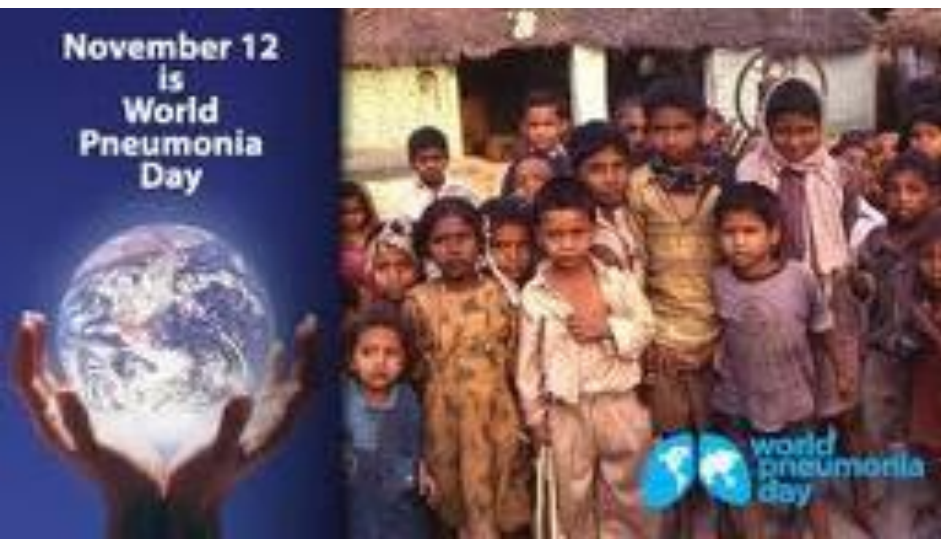
“DO BE DO BE DO” -Sinatra





ERİŞKİN AŞILAMASI





Fight Pneumonia. Save a Child. **November 12th.**



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*Excellence is a road, not a destination
Cont'd, 2015. Ener Cagri Dinleyici*