Meningokok aşıları
Uygulama önerileri

Mehmet Ceyhan

2019

AKUT BAKTERİYEL MENENJİT ETKENLERİ

- *Streptococcus pneumoniae*
- *Neisseria meningitidis*
- *Hemophilus influenzae tip b*

Hib Aşısını Ulusal Aşı Şemasına Ekleyen Ülkeler (2018)

Introduced* to date *(191 countries or 98%)*

Not Available, Not Introduced/No Plans *(3 countries or 2%)*

Not applicable

* Includes partial introduction

Data source: WHO/IVB Database, as of 26 January 2018
Map production Immunization Vaccines and Biologicals (IVB),
World Health Organization

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement. ©WHO 2018. All rights reserved.

Konjuge Pnömokok Aşısını Aşı Şemasına Ekleyen Ülkeler (2018)

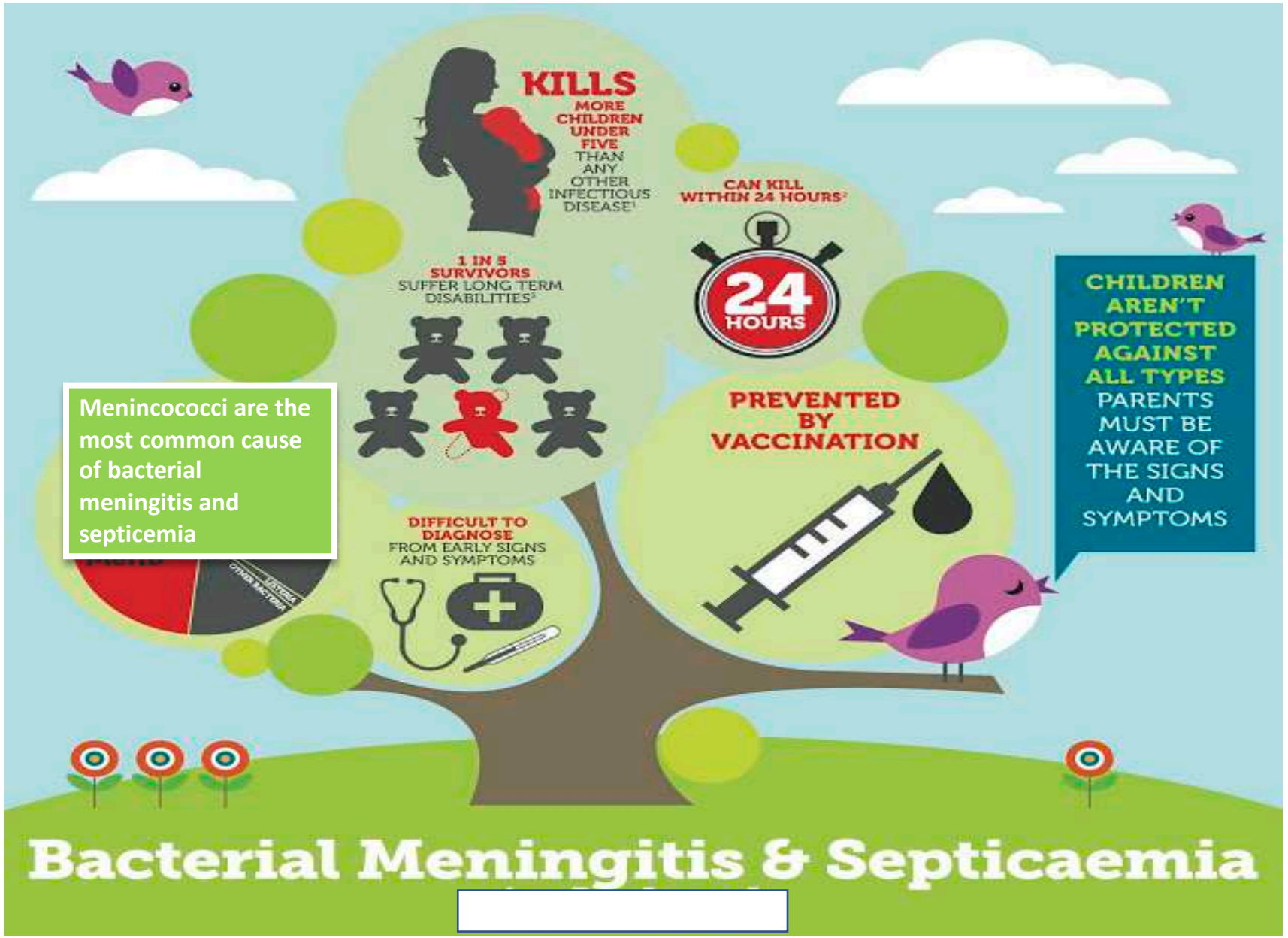
	Introduced* to date	*(137 countries or 70.6%)*
	Planned introductions in 2018	*(4 countries or 2.1%)*
	Not Available, Not Introduced/No Plans	*(53 countries or 27.3%)*
	Not applicable	

* Includes partial introductiona

Data source: WHO/IVB Database, as of 26 January 2018
Map production Immunization Vaccines and Biologicals (IVB),
World Health Organization

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement. ©WHO 2018. All rights reserved.

WHO

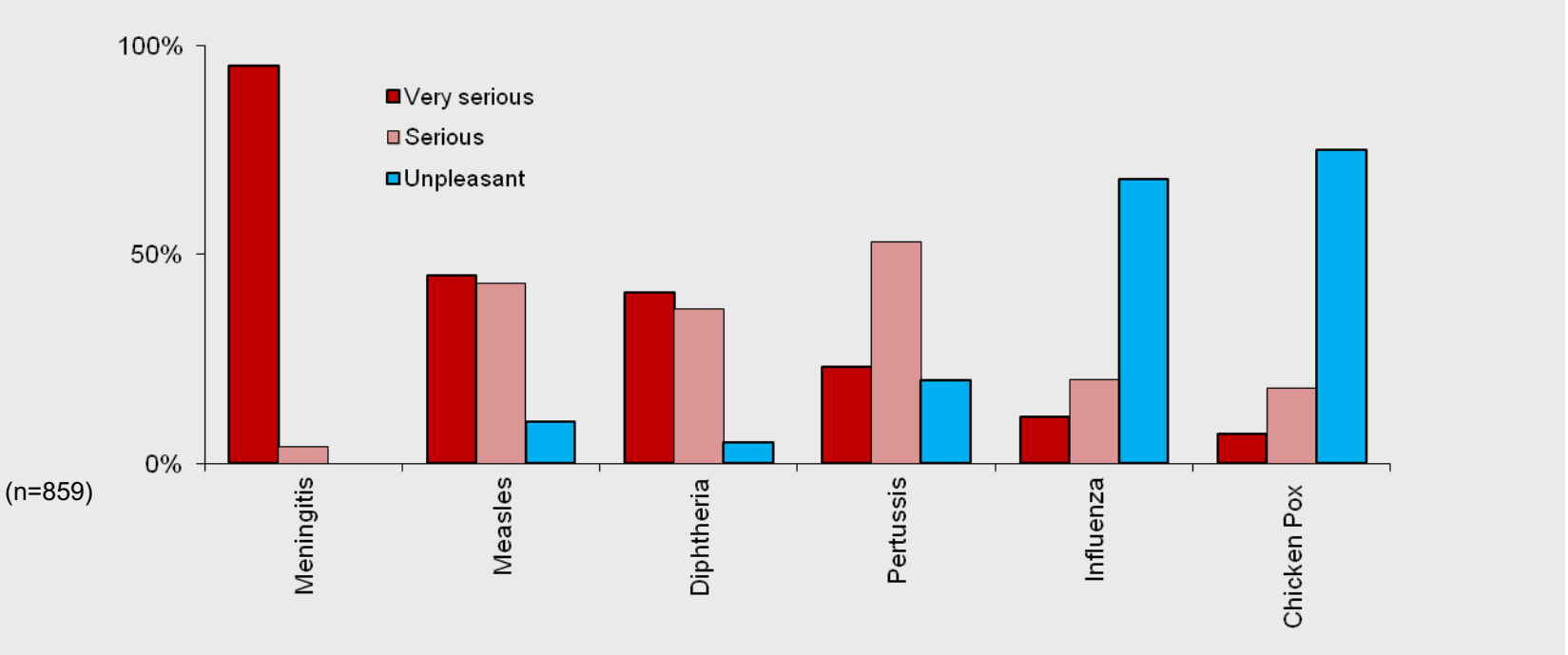


Menincococci are the most common cause of bacterial meningitis and septicemia

MENINGITIS FREE WORLD

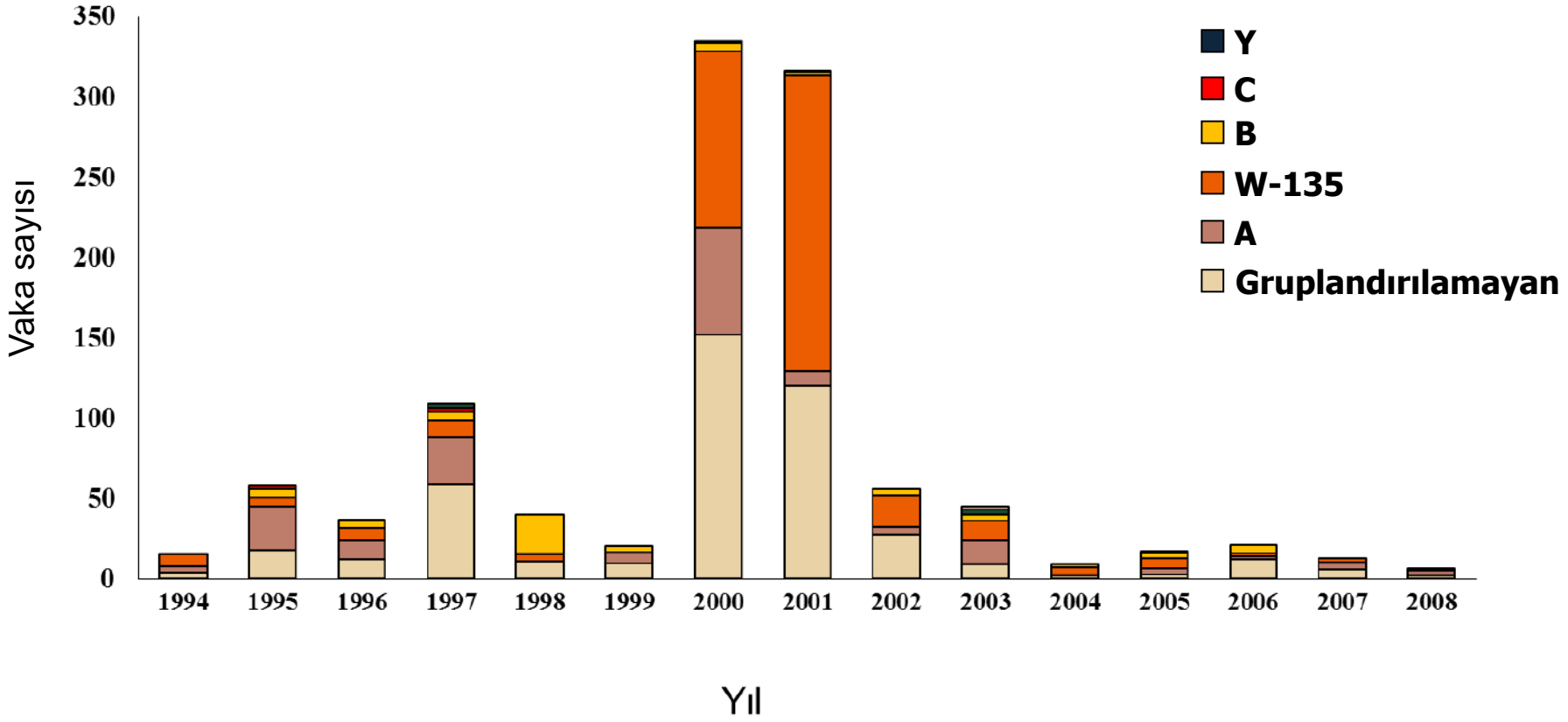
Yeni aşıların halk tarafından kabul edilebilirliği

İngiliz ailelerde aşı kabulu
Konjuge pnömokok aşısından 2 yıl önce
18-24 aylık çocukların anne-babalarında yapılan anket çalışması - 2004



Yıllara göre bildirilen meningokok hastalıklı vaka sayısı ve serogrup dağılımı

Suudi Arabistan, 1994–2008

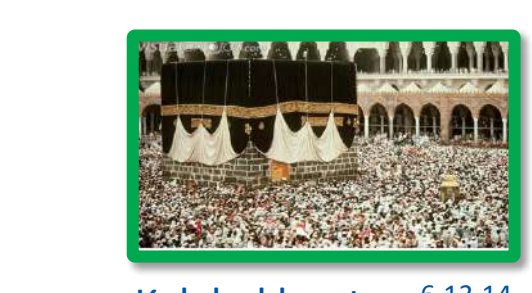


Khalil MKM, et al. *Travel Med Infect Dis*. 2009;7:231-234.

Risk grupları

Bağışıklık yetmezliği[6,12] / antikor eksikliği[6]

Bebekler, çocuklar[6,12]



Bağışıklık yetmezliği[12]

Enfekte kişi veya bakteri ile yakın temas[6]

Endemik bölgelere seyahat[13]

Kalabalık ortam[6,13,14] (öğrenci, asker, hacı, Petrol rafinerileri)

Bakıcılar, ev halkı[13]

N. Meningitidis ile çalışanlar[12,13]

Pollard AJ. In: *Harrison's Principles of Internal Medicine*. 18th ed. 2012;chapter 143; [12]Bilukha O. *Pediatr Infect Dis J.* 2007;26(5):371; [13]MacNeil J. In: *Manual for the Surveillance of Vaccine-Preventable Diseases.* 5th ed. 2012; [14]Liphaus BL. *Enferm Infecc Microbiol Clin*. 2013;31(2):88.

CIRC.14/05/FGMS/814 – Approved 12 May 2014

Çeşitli Popülasyonlarda İnvazif Meningokokal Hastalık İnsidansı

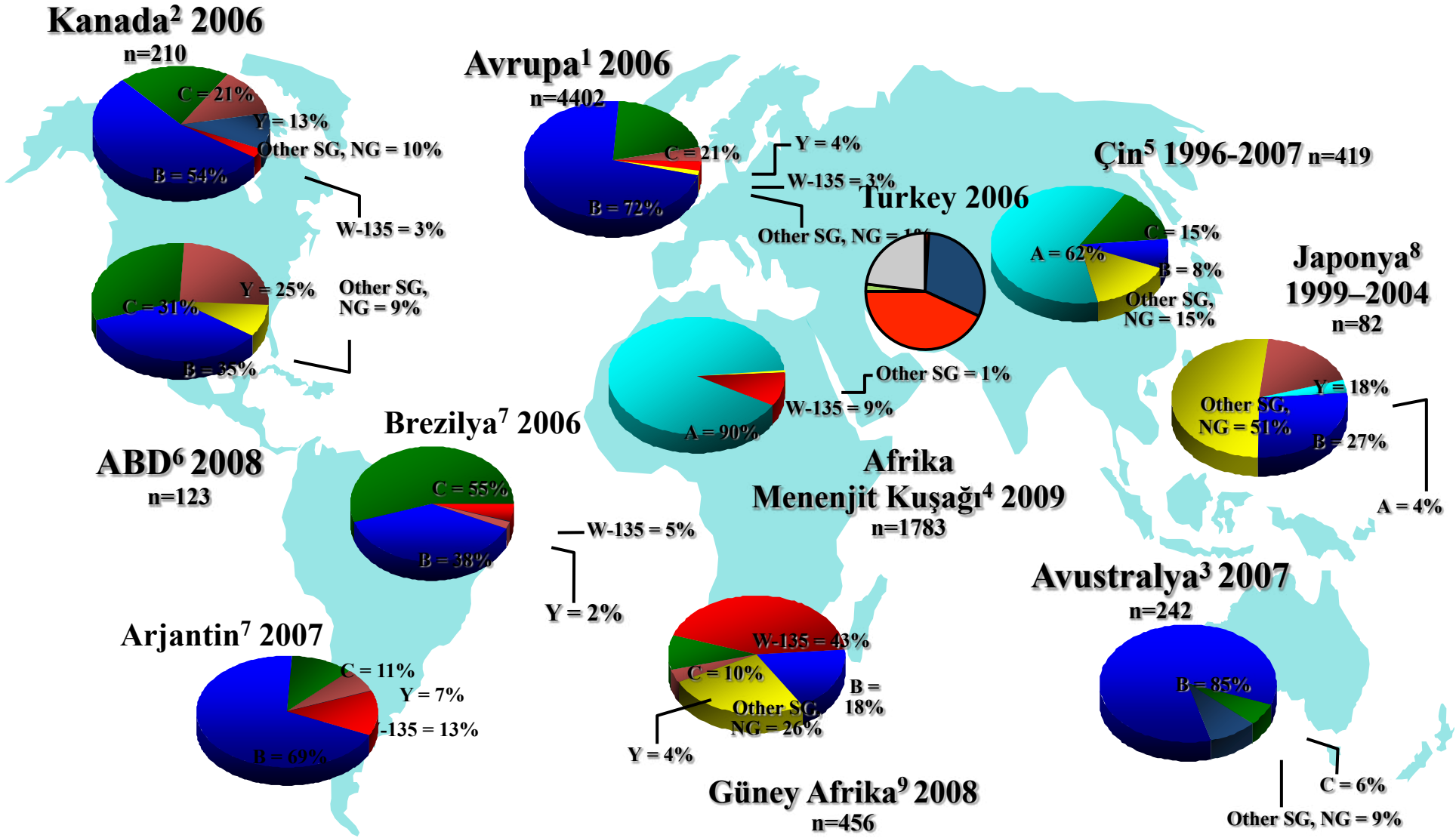
Popülasyon	İnsidans (100.000 kişide)
Gelişmekte olan ülkelere seyahat (1986-10989 verisi)	0,48
Genel ABD popülasyonu -1989 -2007	 1,3 0,34
Menenjit kuşağı epidemileri	100-800
1987 Hacılar (ABD)	640
2000 Hacılar (Birleşik Krallık ve Singapur)	25-30
Hacılarla temaslılar (Singapur)	18-28

Wilder-Smith, A Expert Rev Vaccines 2009 Oct;8(10):1343-50

Risk grubu aşılaması x kitlesel aşılama

Vakaların sadece % 3’ ü risk grubunda

Dünyada *N. meningitidis* serogruplarının dağılımı



[1]http://www.euibis.org/php/meningo_stack_chart.php?item=serogroup&year=2006; [2] http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/09pdf/acs-dcc-04.pdf; [3]Tapsall J, et al. *Commun Dis Intell*. 2008;32(3):299; [4]http://www.who.int/csr/disease/meningococcal/BulletinMeningite2009_S27_31.pdf; [5]Lin M, et al. *Zhongguo Ji Hua Mian Yi*. 2009;15(1):58; [6]http://www.cdc.gov/abcs/reports-findings/survreports/mening08.pdf; [7]Sáfadi MA, Cintra OA. *Neurol Res*. 2010;32(3):263. [8]http://idsc.nih.go.jp/iasr/26/300/tpc300.html; [9]http://www.nicd.ac.za/pubs/survbull/2009/commdisbullmarch09_vol0701.pdf.

Meningokok menenjitine neden olan serogruplar zaman içinde değişebilir, KSA

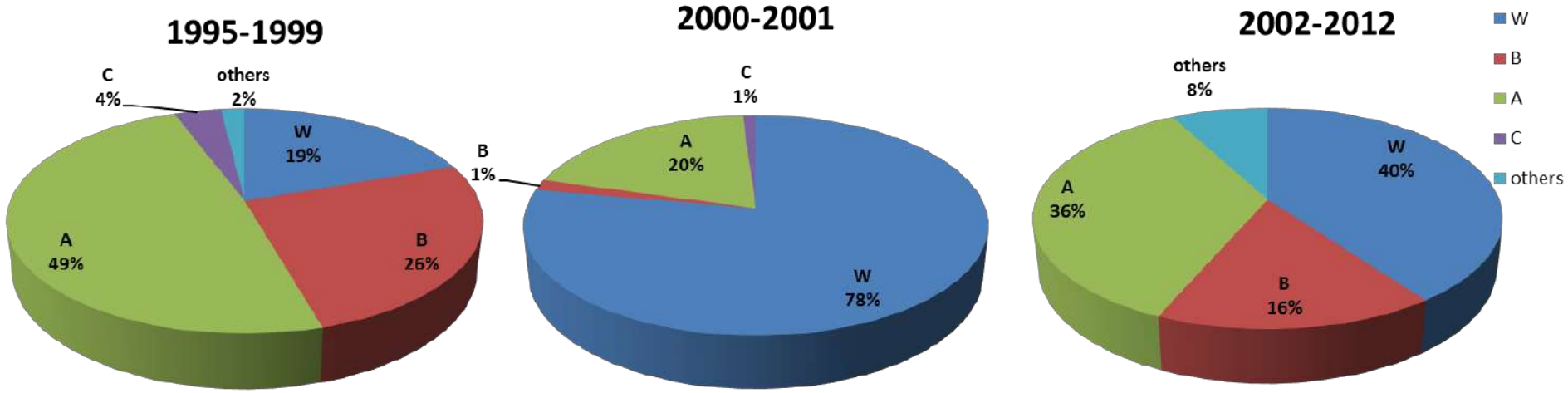
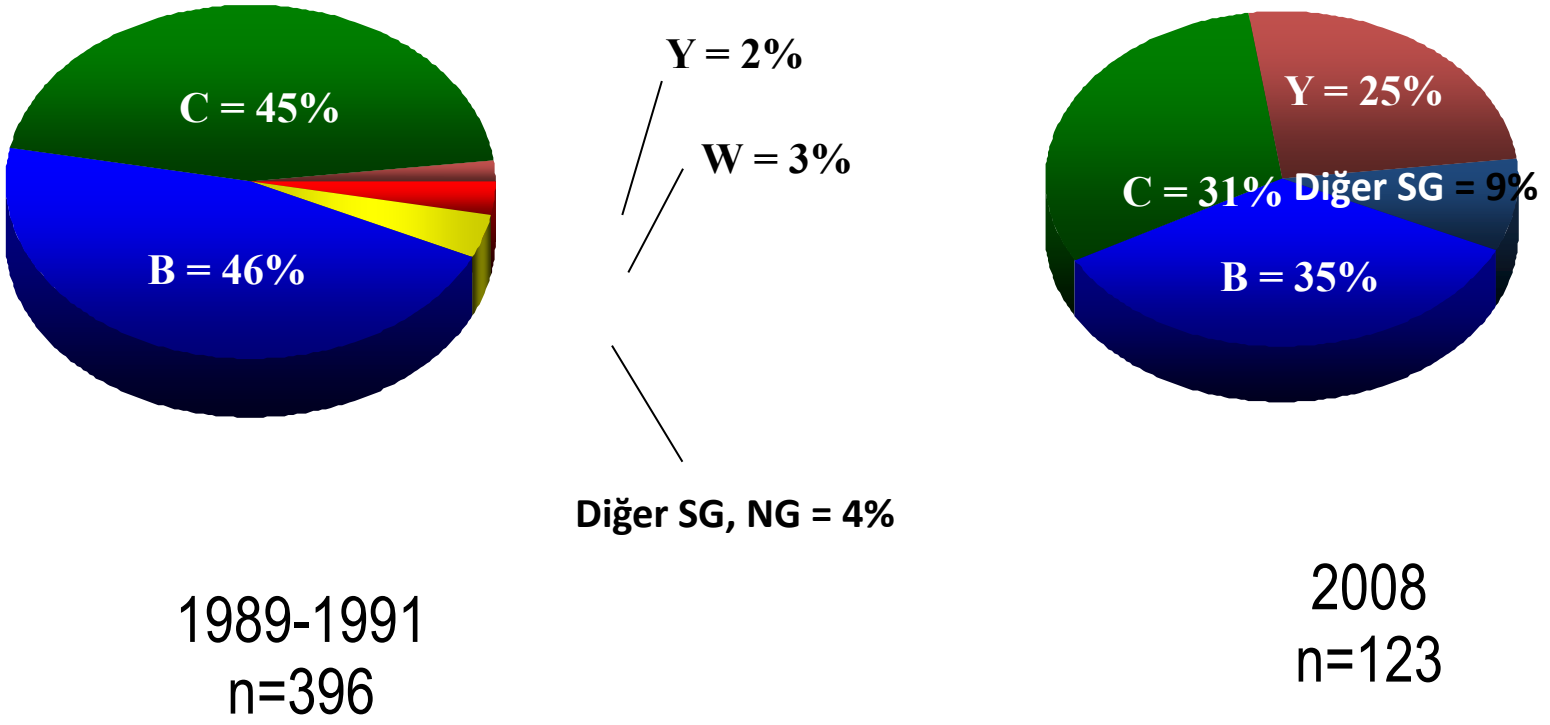


Figure. Distribution of serogroups for all typed isolates of IMD, all ages, during 1995-1999 (n:158), 2000-2001 (n:383), and 2002-2012 (n:115), KSA.

Figure adapted from the reference. others: serogroups X,Y, and Z.

Memish Z et al. Euro Surveill. 2013;18:20581.

ABD'de serogrup dağılımda değişim



- Serogroup Y prevelansı 19 yıllık bir periyodda yaklaşık 13 kat artmıştır

SG=serogroup; NG= tiplendirilemeyen

Jackson LA, et al. *MMWR CDC Surveill Summ.* 1993;42(2):21; http://www.cdc.gov/abcs/survreports.htm

Meningokok menenjitine neden olan serogruplar zaman içinde değişebilir

Türkiye

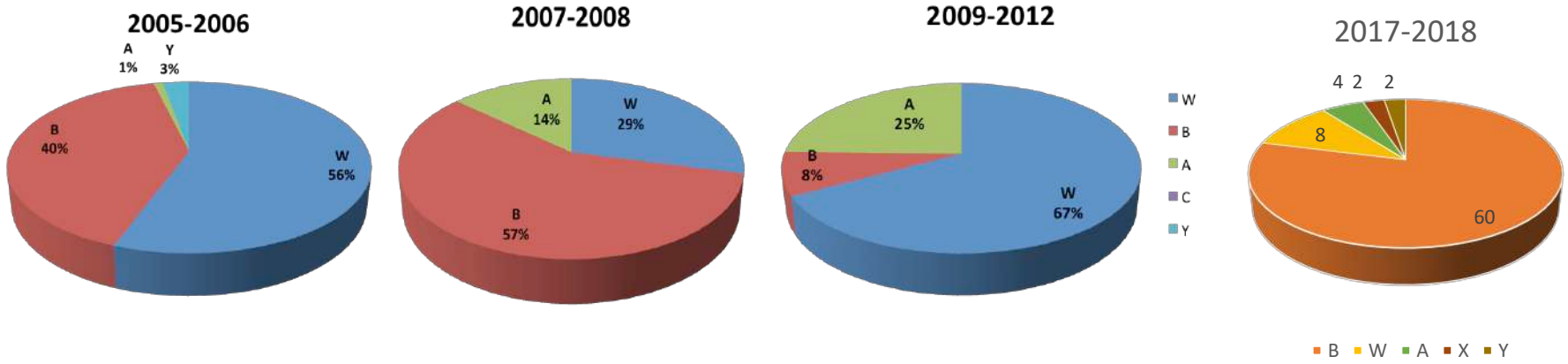


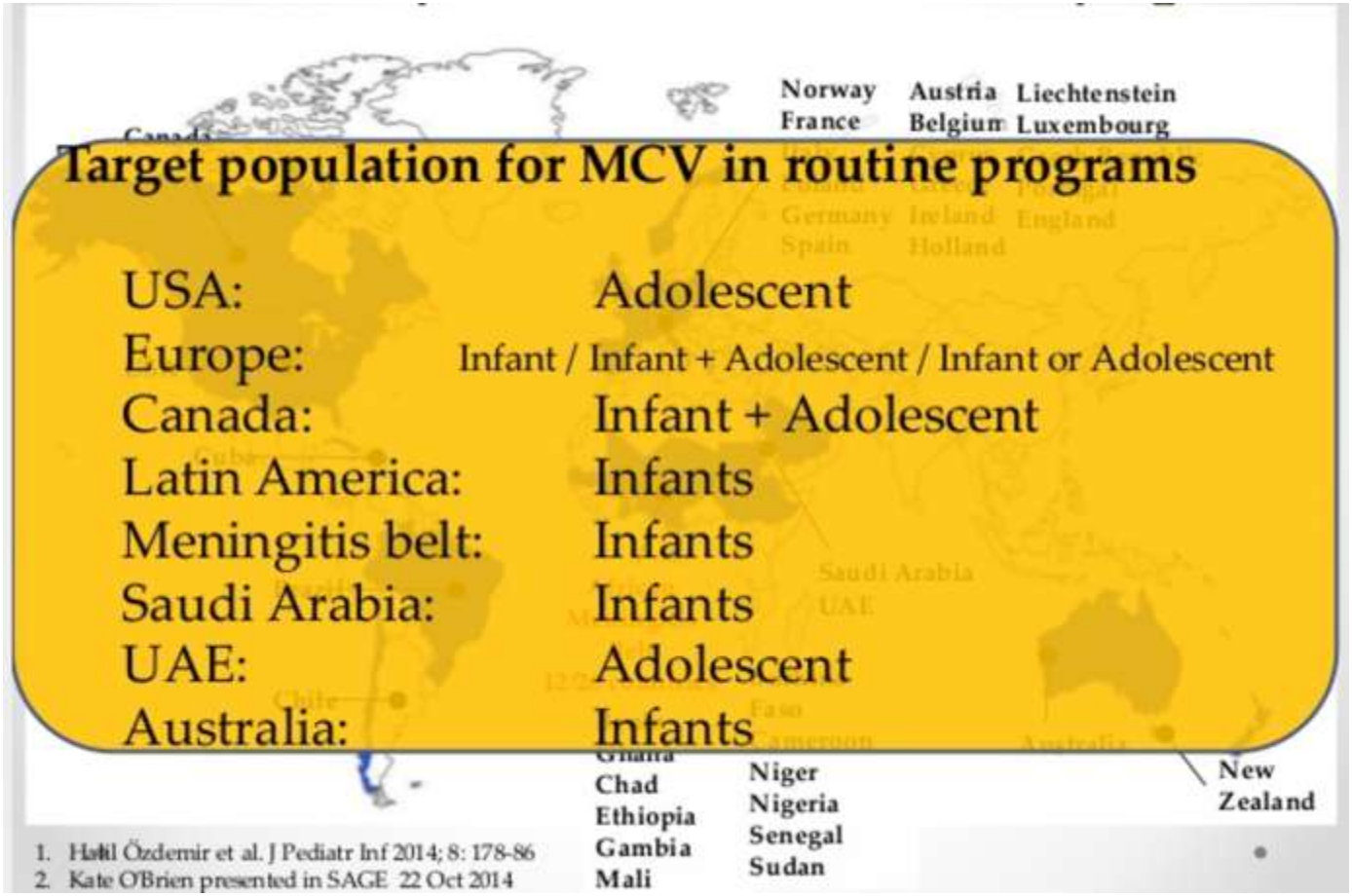
Figure. Distribution of confirmed pediatric bacterial meningitis cases (0-18 years) caused by serogroups A,B,C,W, and Y in Turkey, prospective multicenter surveillance, during 2005-2006 (n:106), 2007-2008 (n:66), and 2009-2012 (n:73).

Figure adapted from the reference.

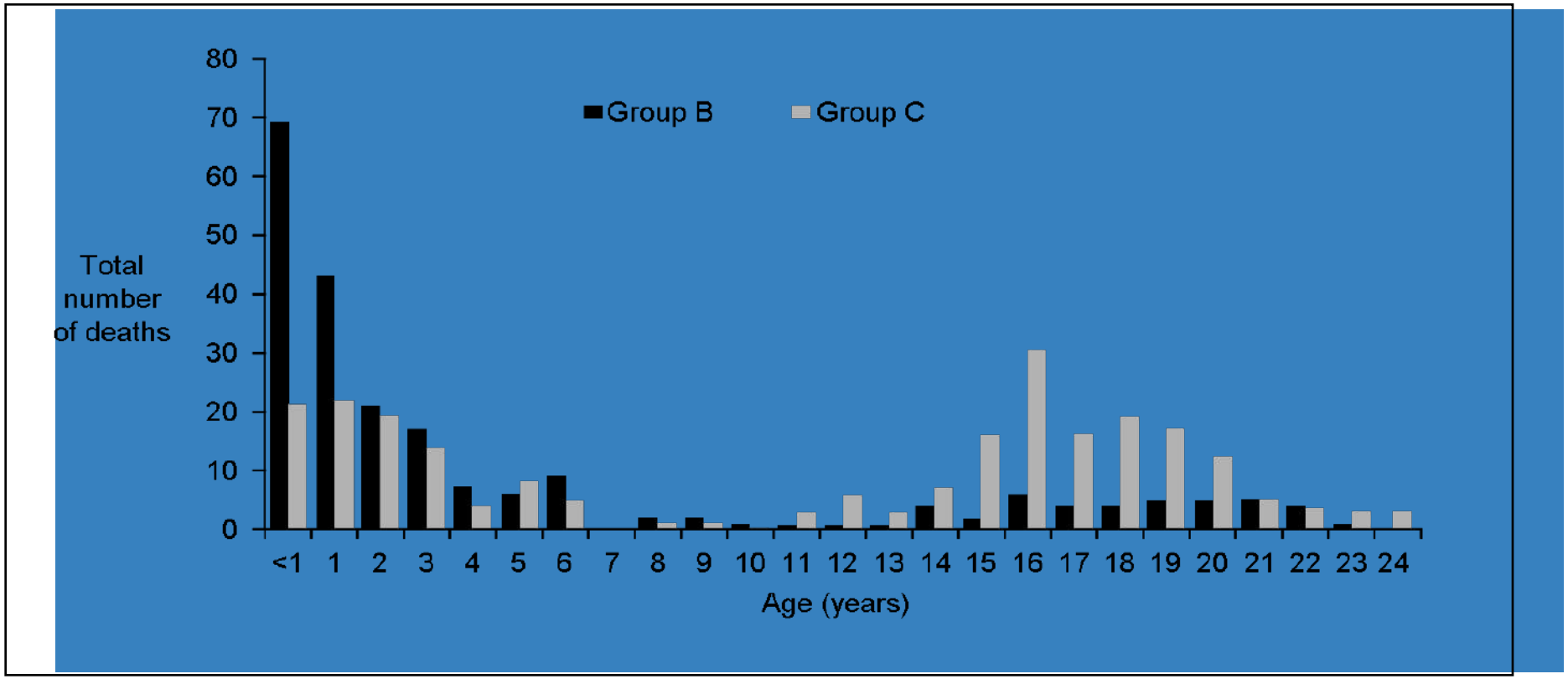
Ceyhan et al. Human Vaccines & Immunotherapeutics 2014; 10
https://www.landesbioscience.com/article/29678/full_text/#load/info/all

Ulusal programında meningokok aşısı uygulayan ülkeler

Ulusal aşı programlarında meningokok aşısı hedefleri

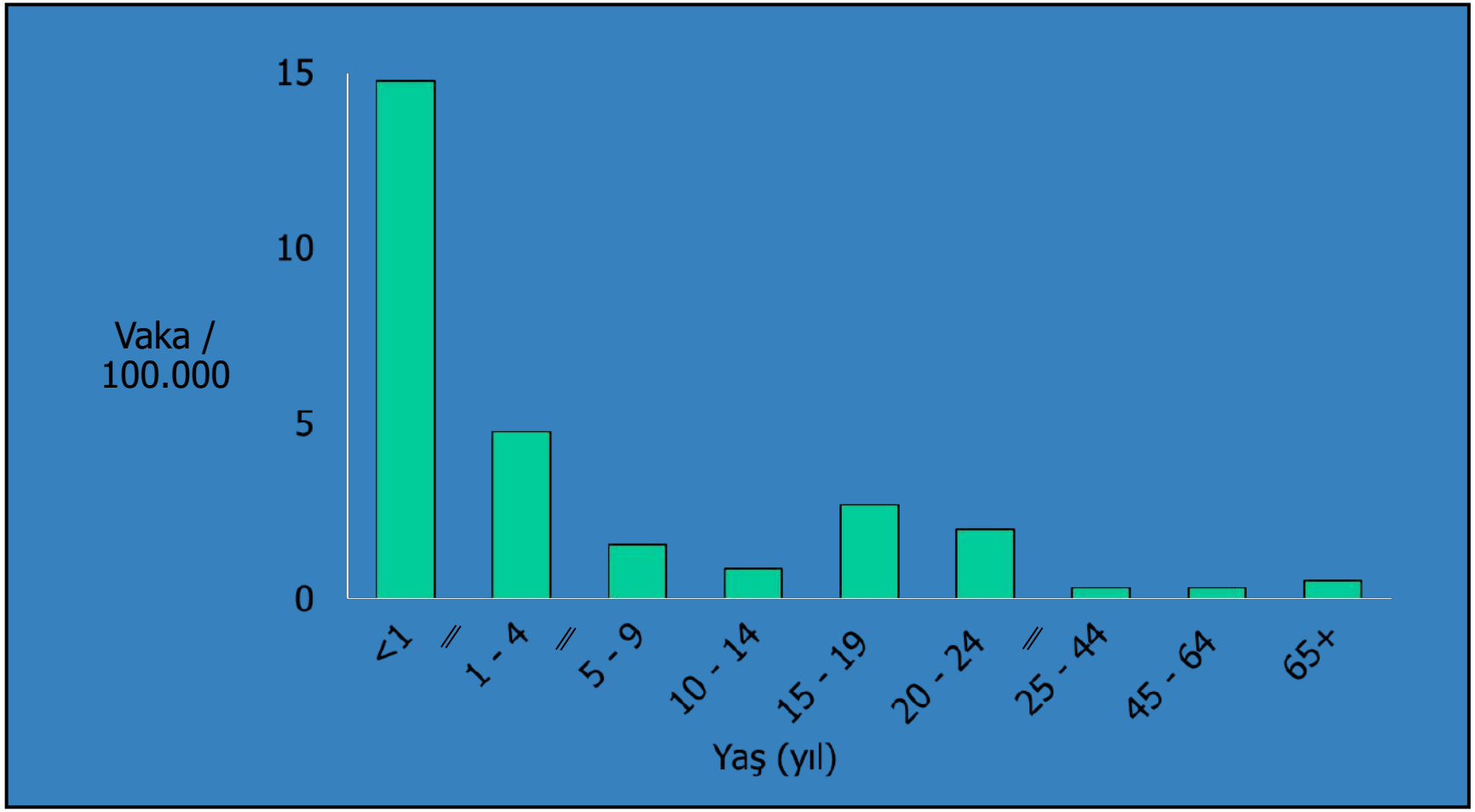


Serogrup B ve C meningokok hastalıklarında ölüm sayıları İngiltere ve Galler, 1994 – 1999



Miller E, et al. Vaccine. 2001;20(suppl 1):S58-S67. pS60/fig2b

Yaşa göre invazif meningokok hastalığı insidansı Fransa, 2006



EU-IBIS Network. Invasive *Neisseria meningitidis* in Europe 2006. www.euibis.org.

İnsidans hızları

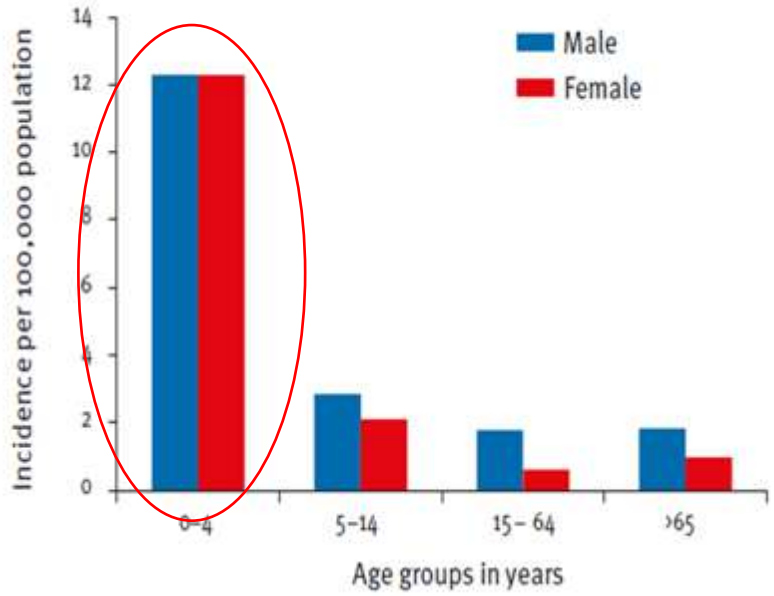


Figure. Cumulative incidence of invasive meningococcal disease for citizens and residents of Saudi Arabia by age group and sex, 1995–2011 (n=645).

Memish ZA et al. Euro Surveill. 2013;18(37):pii=20581

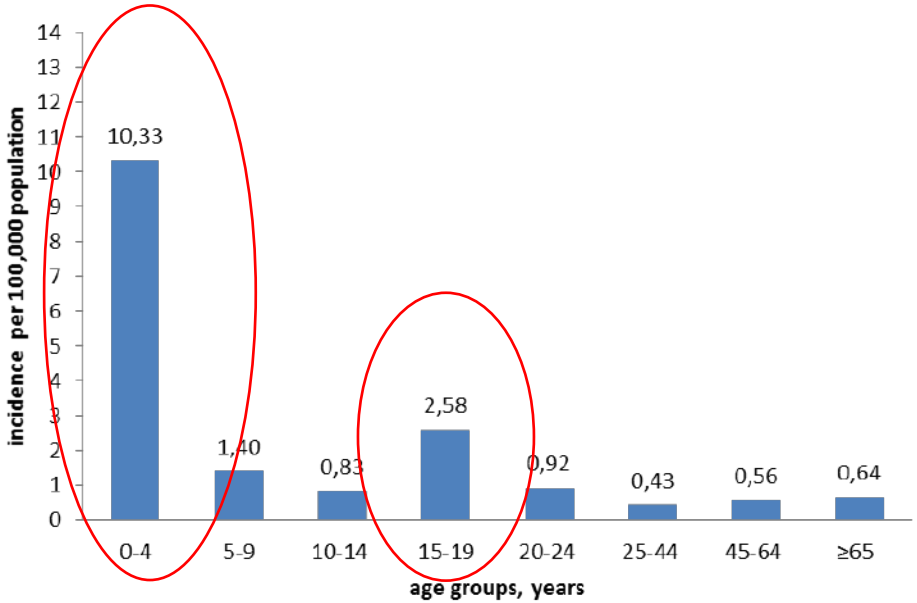
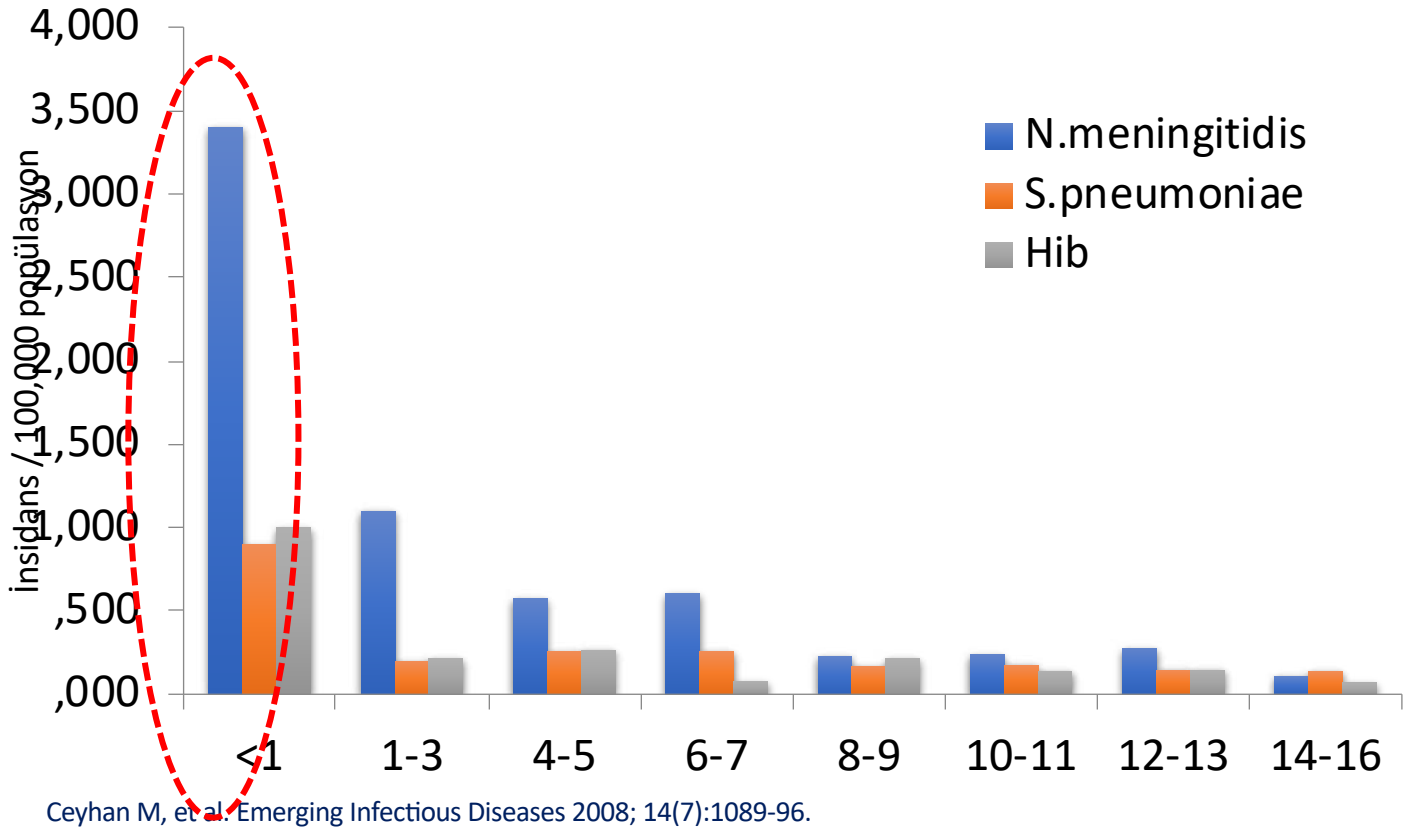


Figure. Age-specific incidence rates (per 100,000 population) of IMD in UK, 2012/2013 epidemiological year

Figure adapted from the references

http://www.hpa.org.uk/hpr/archives/2013/hpr3413.pdf
http://www.hpa.org.uk/hpr/archives/2013/hpr2613.pdf
http://www.hpa.org.uk/hpr/archives/2013/hpr0813.pdf
http://www.hpa.org.uk/hpr/archives/2012/hpr4312.pdf
http://www.ons.gov.uk/ons/rel/pop-estimate/population-estimates-for-uk--england-and-wales--scotland-and-northern-ireland/2013/rft---mid-2013-uk-population-estimates.zip

Yaşlara Göre Menenjit Etkenleri - TÜRKİYE

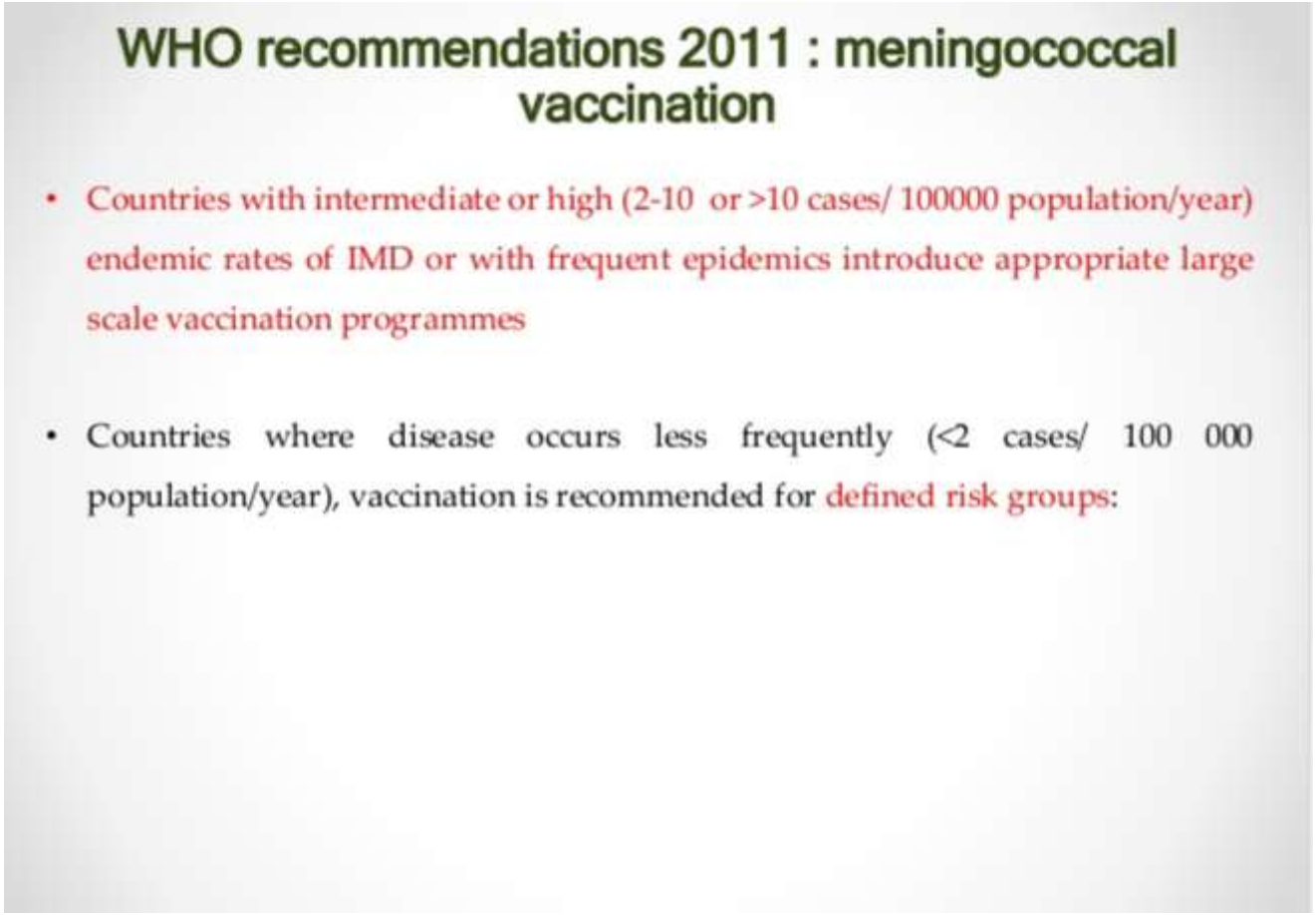


Ceyhan M, et al. Emerging Infectious Diseases 2008; 14(7):1089-96.

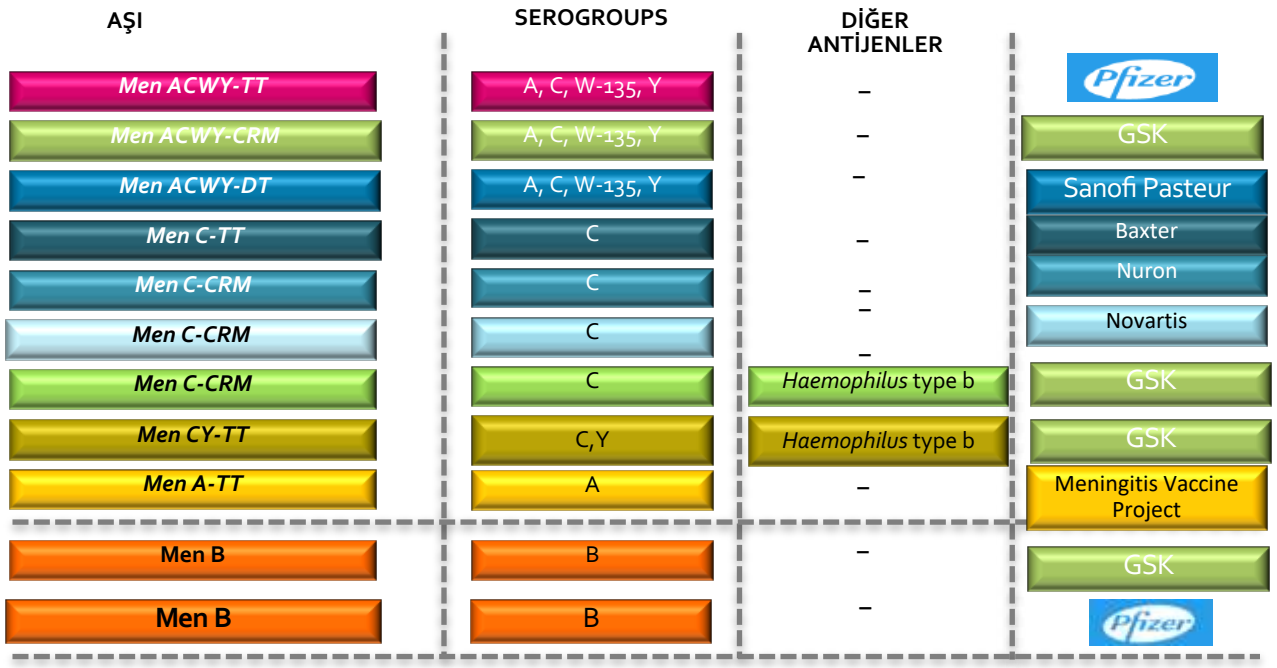
Türkiye'de invazif meningokok enfeksiyonu insidansı

- Yüzbinde 4

DSÖ 2011 önerileri



Güncel Meningokok Aşıları



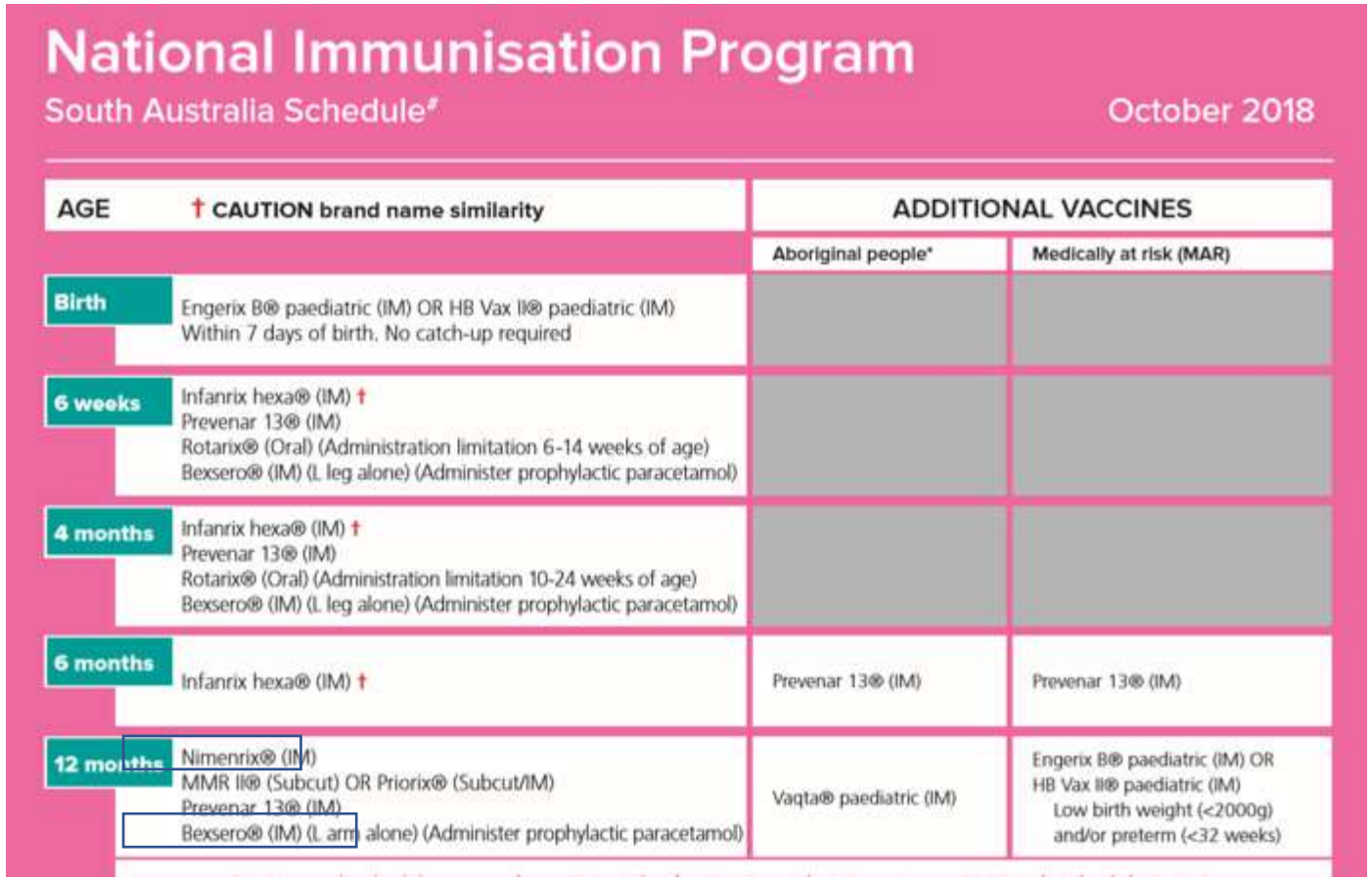
Menenjit Aşıları Genel Durum

Grup		FDA	EMEA	Türkiye
Konjuge Menenjit ACWY Aşıları	NİMENRİX	2ay-55yaş	2 ay ve üstü (üst yaş limiti yok)	• 2 ay ve üstü endikasyonu var
	MENACTRA	9ay-55yaş	Ruhsatı Yok	• 9 ay-55 yaş endikasyonu var
	MENVEO	Ruhsatı Yok	2 ay ve üstü (üst yaş limiti yok)	• 2 ay ve üstü endikasyonu var
Menenjit B Aşısı	BEXSERO	10-25 yaş	2 ay üstü	• 2 ay ve üstü
	TRUMENBA	10-25 yaş	Ruhsatı Yok	• Ruhsat aşamasında

Dört valanlı konjuge aşılar ve Serogrup B aşısı

- Diğer rutin aşılarla birlikte uygulanabilir

Nimenrix ve Meningokok B aşısı birlikte uygulanabilir mi?



National Immunisation Program

South Australia Schedule# October 2018

AGE	† CAUTION brand name similarity	ADDITIONAL VACCINES	
		Aboriginal people*	Medically at risk (MAR)
Birth	Engerix B® paediatric (IM) OR HB Vax II® paediatric (IM) Within 7 days of birth. No catch-up required		
6 weeks	Infanrix hexa® (IM) † Prevenar 13® (IM) Rotarix® (Oral) (Administration limitation 6-14 weeks of age) Bexsero® (IM) (L leg alone) (Administer prophylactic paracetamol)		
4 months	Infanrix hexa® (IM) † Prevenar 13® (IM) Rotarix® (Oral) (Administration limitation 10-24 weeks of age) Bexsero® (IM) (L leg alone) (Administer prophylactic paracetamol)		
6 months	Infanrix hexa® (IM) †	Prevenar 13® (IM)	Prevenar 13® (IM)
12 months	Nimenrix® (IM) MMR II® (Subcut) OR Priorix® (Subcut/IM) Prevenar 13® (IM) Bexsero® (IM) (L arm alone) (Administer prophylactic paracetamol)	Vaqta® paediatric (IM)	Engerix B® paediatric (IM) OR HB Vax II® paediatric (IM) Low birth weight (<2000g) and/or preterm (<32 weeks)

Aşılama yaşı

<u>Primer</u>

- En uygun: 0-2 yas
- ?: 11 yaş

<u>Catch-up</u>

- 11-12 yaş
- Risk grupları

<u>Booster (tekrar)</u>

- 11-12 yaş (okul aşılaması)
- Askerlik hizmetine başlarken(20 yaş)

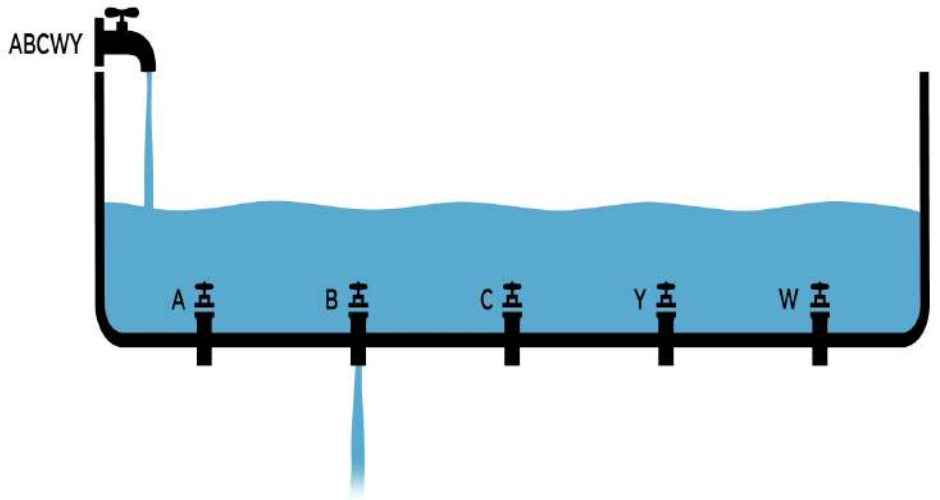
<u>Hacılar</u>

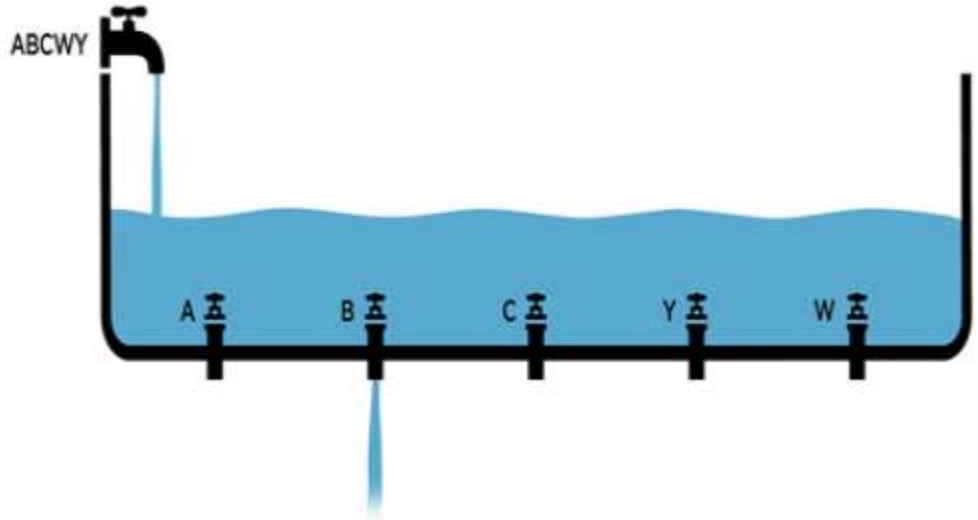
Hangi aşı tercih edilmeli? (ACYW ? B?

Havuz problemi
(2014 YKS, Matematik 28. soru)

Invazif enfeksiyon adlı bir havuzu ABCWY musluğu 10 saatte doldurmaktadır. Havuzun A, B, C, W, Y adlı 5 adet musluğu vardır ve herbiri havuzu 60 saatte boşaltmaktadır. **ABCWY musluğu ve B musluğu aynı anda açık olursa**, havuz kaç saatte dolar?

a) 10
b) 12
c) 15
d) 20
e) 30



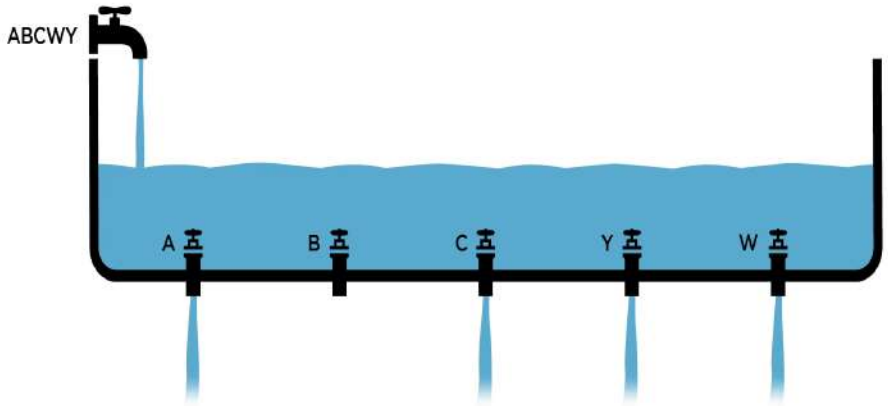


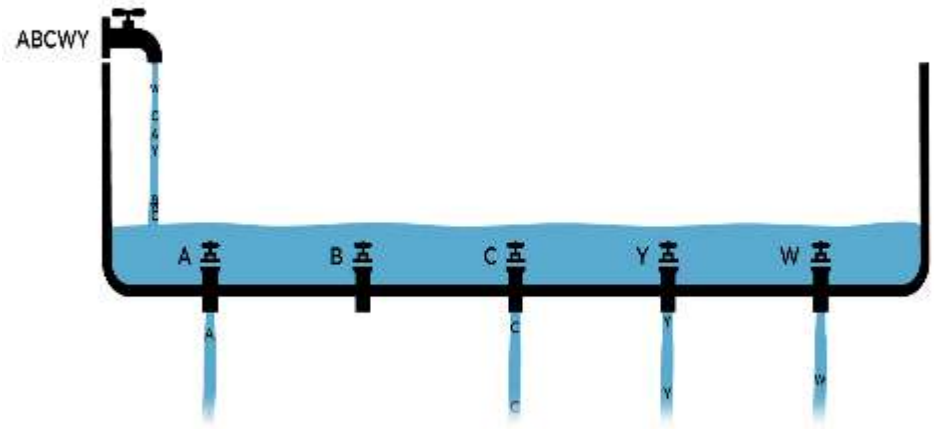
Cevap: b, 12 saatte

Havuz problemi
(2014 YKS, Matematik 28. soru)

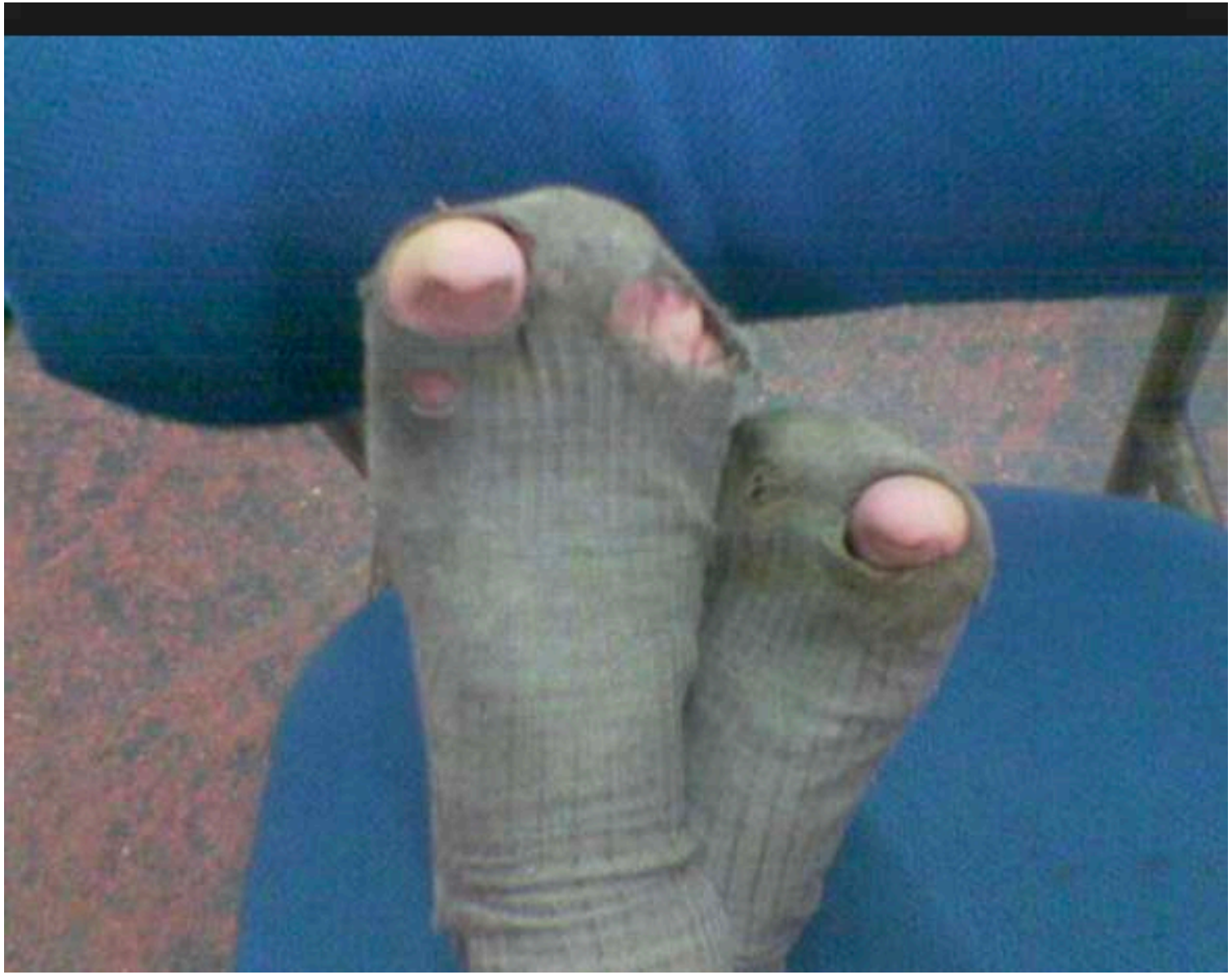
Invazif enfeksiyon adlı bir havuzu ABCYW musluğu 10 saatte doldurmaktadır. Havuzun A, B, C, W, Y adlı 5 adet musluğu vardır ve her biri havuzu 60 saatte boşaltmaktadır. ABCWY musluğu ve **B hariç, A, C, W ve Y musluğu aynı anda** açık olursa, havuz kaç saatte dolar?

a) 10
b) 12
c) 15
d) 20
e) 30



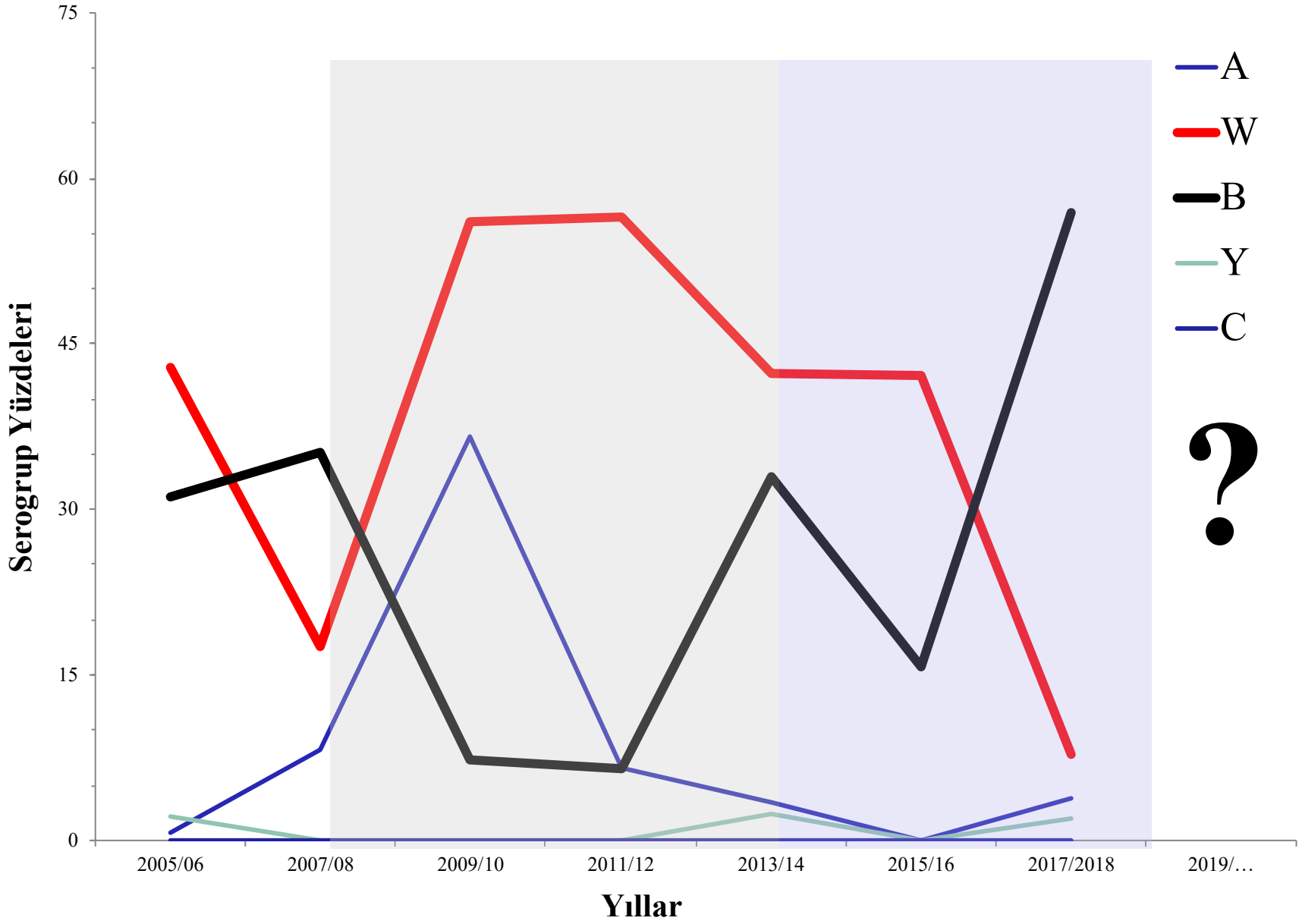


Cevap: e, 30 saatte

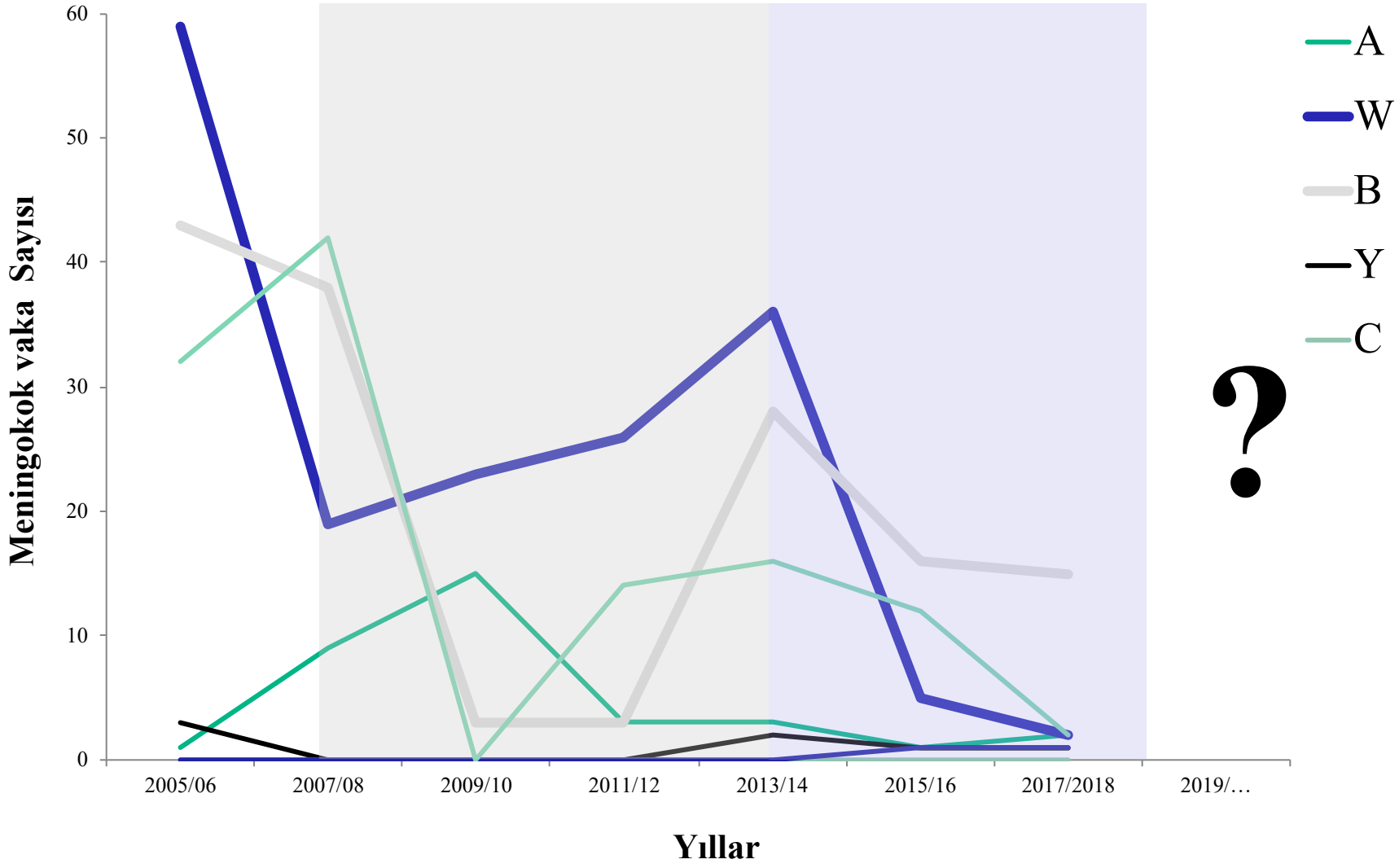


A, B, C, W, Y MUSLUKLARI EŞİT Mİ BOŞALTIYOR?

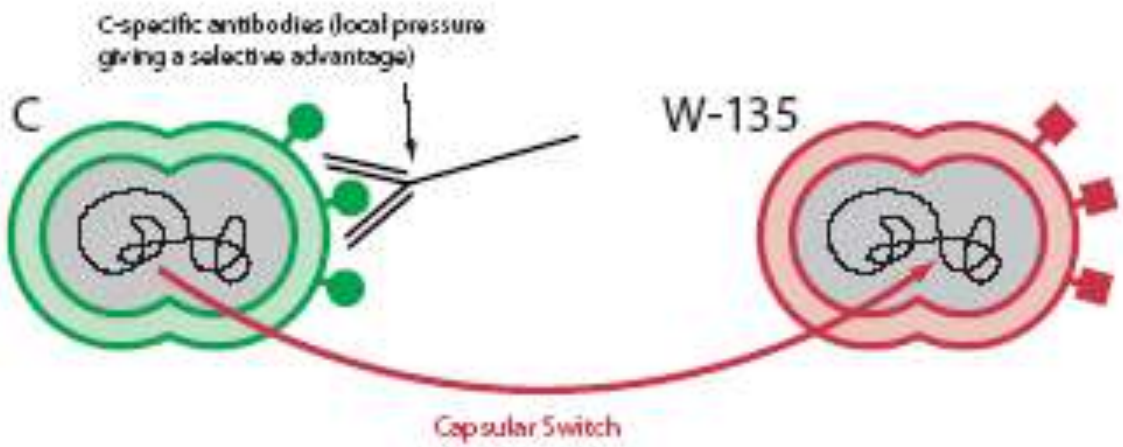
Türkiye Serogrup Değişimi (%), 2005-2018



Türkiye Serogrup Değişimi (n), 2005-2018



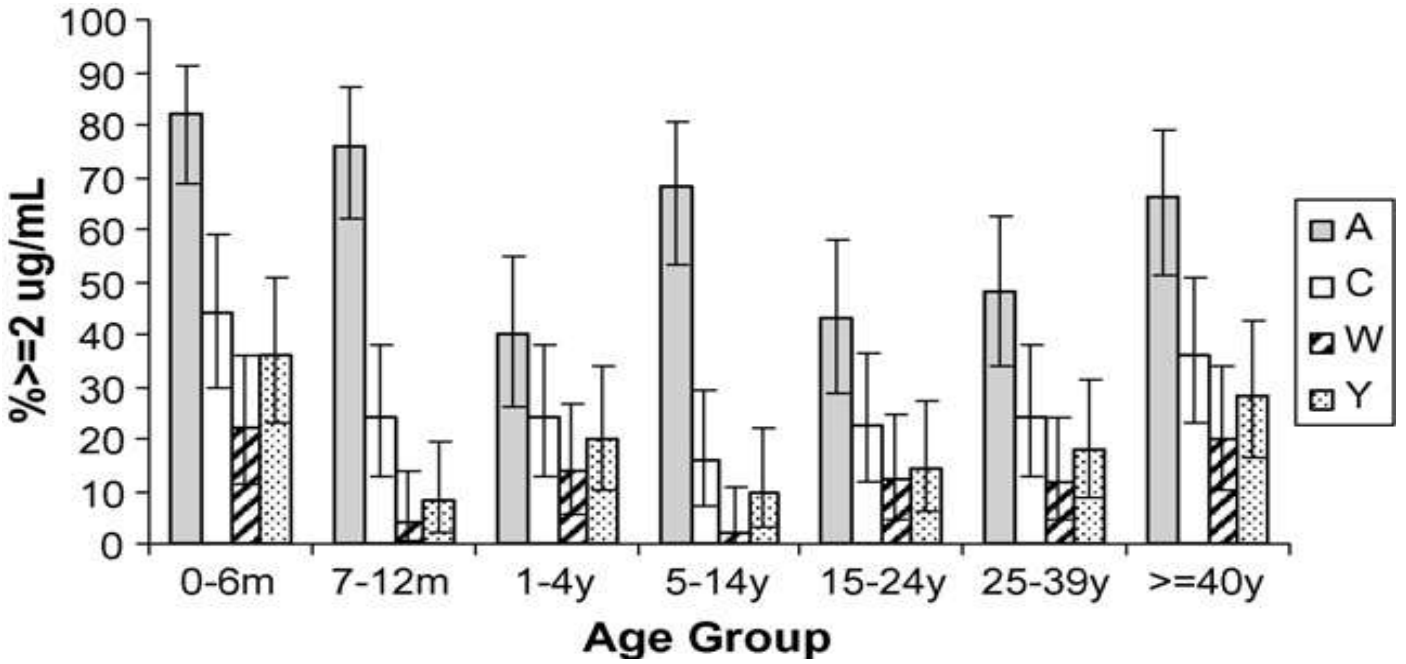
Serogrup Dağılımdaki Değişim ve Kapsül Değişimi (Switching)



- Bakteri polisakkarid kapsülünü değiştirerek bir serogruptan diğerine dönüşebilir.
- Kapsül değişimi immün sistemden kaçışa izin verir.
- B,C,W serogrupları arasında gerçekleşebilir.

Swartley JS, et al. *Proc Natl Acad Sci USA*. 1997;94(1):271. Harrison LH Clin Microbiol Rev. 2006; 19(1): 142–64.

Türk Popülasyonunda Serogroup A, C, W ve Y-spesifik IgG Konsantrasyonları



Grafik. Sağlıklı Türk popülasyonunda serogrup-spesifik IgG konsantrasyonları ≥2 µg/mL olanların yüzdelerinin yaşa göre dağılımları

Hata barları % 95 güven aralıklarını göstermektedir. n: 349. 0-91 yaşları arasında sağlıklı kişilerin serum örnekleri, 2005. Grafik referanstan uyarlanmıştır.

Ceyhan M, et al. Vaccine 2007; 25:7233–37

N. meningitidis izolatlarının moleküler analizi

isolate	year	serogrou	genogrou	capsule_grou	PorA_VR	PorA_VR	PorA_VR	FetA_V	abcZ	adk	aroE	fumC	gdh	pdhC	pgm	ST (MLST	clonal_complex (MLST
2	2014	B	B	B	7	16	35	F3-3	4	10	5	4	6	3	8	32	ST-32 complex
3	2013	B	B	B	7	16	35	F3-3	4	10	5	4	6	3	8	32	ST-32 complex
4	2013	B	B	B	12-3	4	37	F3-9	9	6	9	9	249	6	9	3346	ST-41/44 complex
5	2014	B	B	B	22-1	14	38	F4-1	4	10	11	17	8	10	12	11922	ST-35 complex
6	2014	B	W	discrepancy	5	2	36-2	F5-8	12	5	34	17	5	38	204	2754	Unassigned
7	2014	B	B	B	5-1	10-8	36-2	F3-9	11	5	18	17	5	24	16	289	ST-22 complex
8	2014	B	B	B	7-2	13-2	35-1	F5-82	2	6	9	478	9	6	9	7911	ST-41/44 complex
9	2013	B	B	B	18-1	3	38		7	8	10	19	10	1	2	18	ST-18 complex
10	2013	B	B	B	7	16	35	F3-3	4	10	5	4	6	3	8	32	ST-32 complex
11	2014	B		B	7-2	13-1	35-1	F1-5	28	6	9	24	9	6	9	191	ST-41/44 complex
12	2013	B		B	7-2	13-1	35-1	F3-1	28	6	9	24	9	6	9	191	ST-41/44 complex
13	2014	B		B	12-3	4	37	F3-9	9	6	9	9	249	6	9	3346	ST-41/44 complex
14	2014	B	B	B	22	9-5	35-1	F1-5	25	3	10	19	10	1	931	13752	ST-18 complex
15	2013	B	W	discrepancy	5	2	36-2	F5-8	12	5	34	17	5	38	204	2754	Unassigned
16	2014	B	B	B	7-11	16	35	F5-43	4	10	5	4	6	3	8	32	ST-32 complex
17	2014	B	B	B	22	14	36	F3-6	7	120	10	19	10	1	30	13753	ST-18 complex
18	2013	B	B	B	7-2	13-1	35-1	F1-5	2	6	9	24	9	6	9	13754	ST-41/44 complex
19	2014	B	B	B	22-1	14	38	F5-2	4	10	11	1147	118	10	12	14614	ST-35 complex
20	2014	B	B	B	22	9	35-1	F5-1	4	10	15	9	8	11	9	269	ST-269 complex
21	2013	B	B	B	12-1	13	35-1	F1-66	12	10	10	72	8	21	139	1111	Unassigned
22	2014	B	B	B	22	14	36	F5-9	1	5	13	53	26	41	3	162	ST-162 complex
23	2014	B	B	B	22-1	14	38	F4-1	4	10	11	18	6	10	12	35	ST-35 complex
24	2014	B	B	B	22	14	36	F5-5	7	5	1	277	36	53	6	11101	ST-213 complex
25	2014	B	B	B	5	2-7	36-2	F4-1	17	5	19	17	3	26	2	60	ST-60 complex
26	2014	B	B	B	22	14	36	F5-5	7	5	1	277	36	53	6	11101	ST-213 complex
27	2014	B	B	B	22-1	14	38	F4-1	4	10	11	18	6	10	12	35	ST-35 complex
41	2015	B	B	B	22	9	35-1	F5-1	4	10	15	9	8	11	9	269	ST-269 complex
42	2015	B	B	B	12-1	13	35-1	F1-66	12	10	10	72	8	21	139	1111	Unassigned
43	2015	B	B	B	22	14	36	F5-9	1	5	13	53	26	41	3	162	ST-162 complex
44	2015	B	B	B	22	14	36	F5-9	1	5	13	53	26	41	3	162	ST-162 complex
47	2015	B	B	B		16	35	F3-3	4	10	5	4	6	3	8	32	ST-32 complex
48	2016	B	B	B	22-1	14	38	F5-83	4	10	11	18	6	10	12	35	ST-35 complex
50	2016	B	B	B	22-1	14	38	F4-1	4	10	928	18	6	10	12	13755	ST-35 complex
51	2016	B	B	B	19-2	13-1	36	F3-9	12	5	12	35	192	22	17	1946	ST-461 complex
53	2016	B	B	B	22	14	36	F3-9	4	10	929	9	8	11	9	13756	ST-269 complex
55	2016	B	B	B	22-1	14	38	F4-1	4	10	11	18	6	10	12	35	ST-35 complex
56	2016	B	B	B	5	2	36-2	F1-7	17	5	19	17	3	26	2	60	ST-60 complex
33	2014	W	B	discrepancy	7-2	13-1	35-1	F1-5	28	6	9	24	9	6	9	191	ST-41/44 complex
28	2014	W	W	W	5	2	36-2	F5-8	12	5	34	17	5	38	204	2754	Unassigned
29	2014	W	W	W	18-1	3	38	F5-8	11	5	18	8	11	4	21	184	ST-22 complex
30	2014	W	W	W	5	2	36-2	F1-1	2	3	4	3	8	4	6	11	ST-11 complex
31	2014	W	W	W	5	2	36-2	F1-1	2	3	4	3	8	4	6	11	ST-11 complex
32	2014	W	W	W	5	2	36-2	F1-1	2	3	4	3	8	4	6	11	ST-11 complex
34	2014	W	W	W	5	2	36-2	F5-8	12	5	34	17	5	38	204	2754	Unassigned
45	2015	W	W	W	5	2	36-2	F1-1	2	3	4	3	8	4	6	11	ST-11 complex
58	2017	W	W	W	5	2	36-2	F1-1	2	3	4	3	8	4	6	11	ST-11 complex
36	2014	A	A	A	20	9	35-1	F3-1	1	1	2	1	3	2	3	5	ST-5 complex
37	2014	A	A	A	5-2	10	37-1	F3-5	2	3	282	1	1	1	3	3349	ST-1 complex
38	2014	A	A	A	5-2	10	37-1	F3-5	2	3	282	1	1	1	3	3349	ST-1 complex
46	2015	A	A	A	5-2	10	37-1	F3-5	2	3	25	1	1	1	3	75	ST-1 complex
39	2014	Y	Y	Y	5	2	36-2	F1-1	2	3	4	3	8	4	6	11	ST-11 complex
40	2014	Y	Y	Y	5-1	10-8	36-2	F1-3	2	7	6	9	16	9	8	767	ST-167 complex
49	2016	Y	Y	Y	5	2	36-2	F3-4	219	5	4	8	11	8	21	12009	ST-22 complex
54	2016	X	X	X	7-1	1	35-1	F4-1	11	5	18	8	11	24	20	5799	ST-22 complex

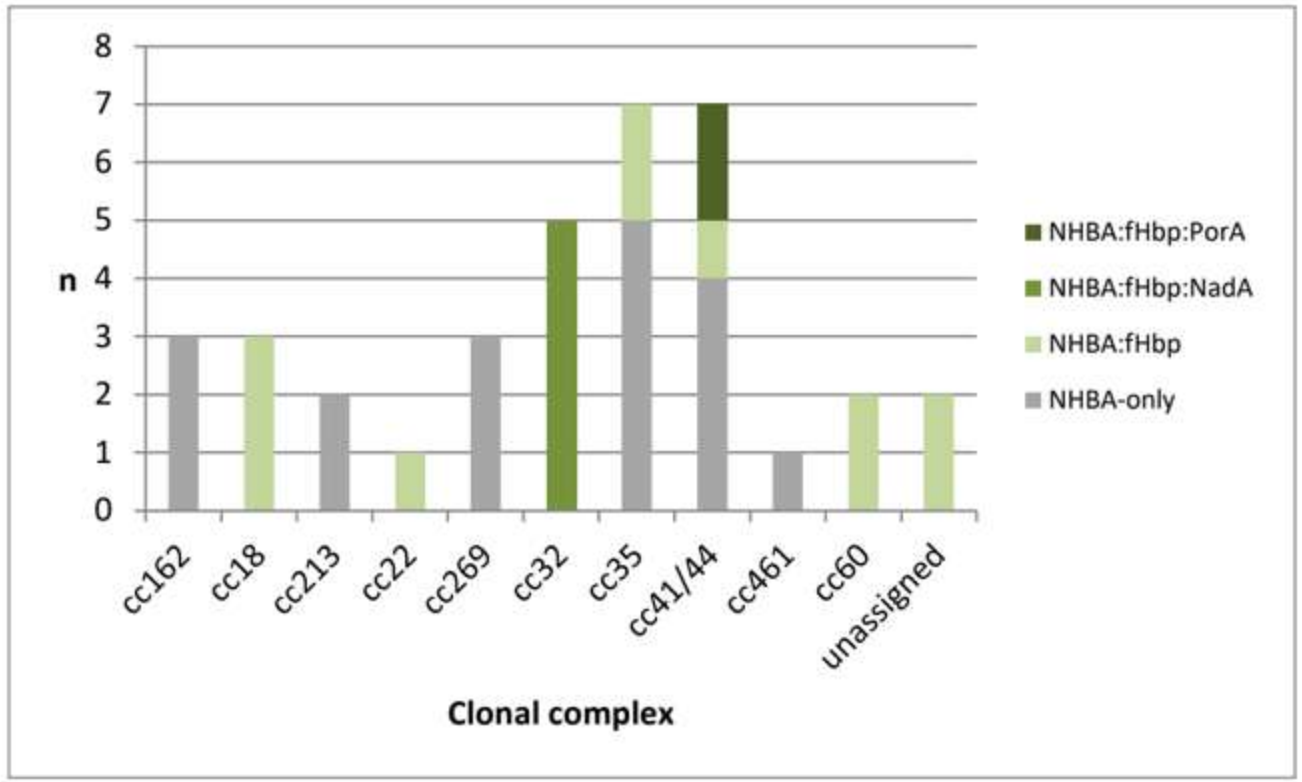


Figure 2. Potentially covered 4CMenB antigens versus clonal complex among invasive MenB isolates in Turkey.

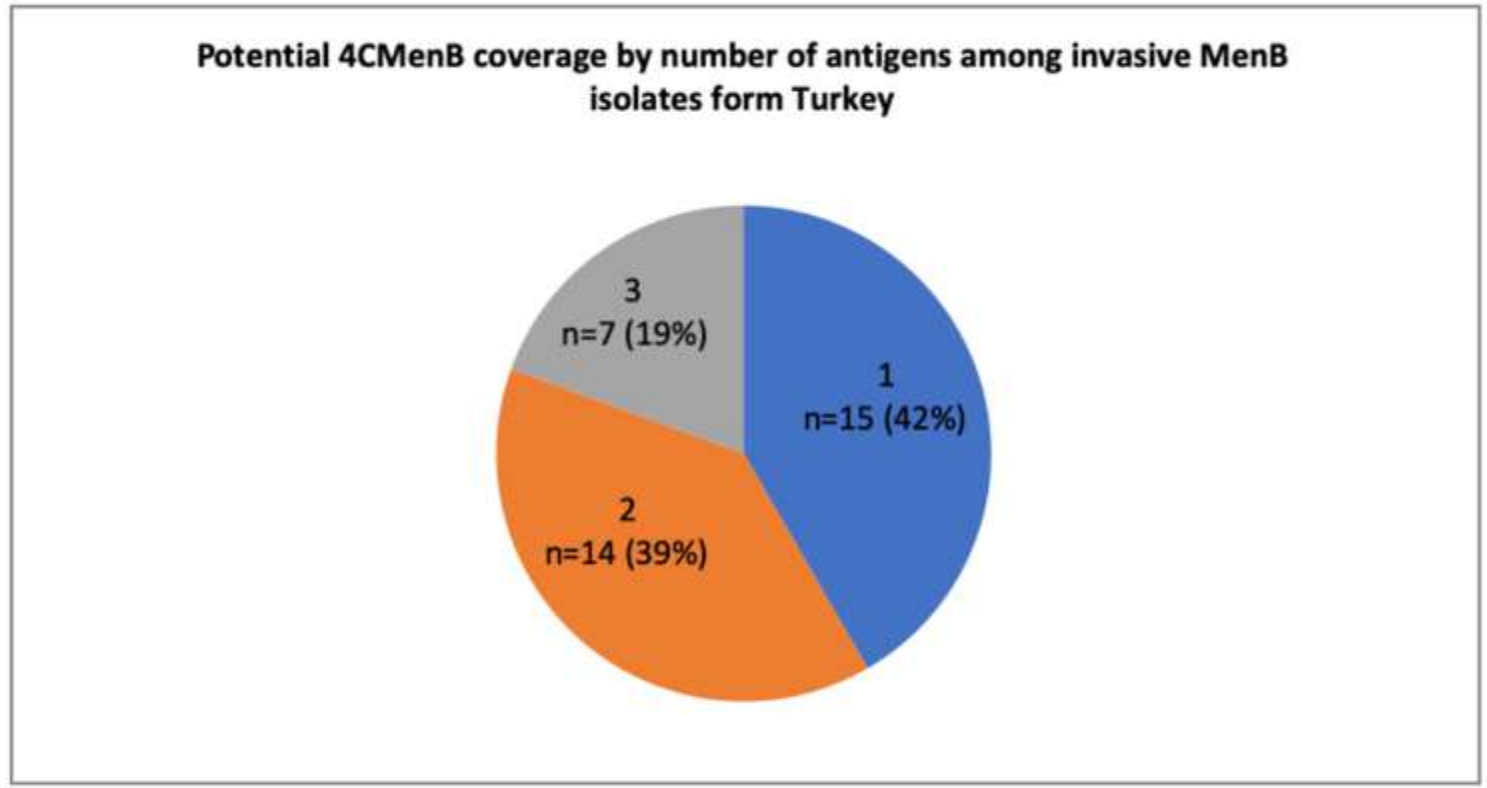


Figure 3. All menB isolates were potentially covered by at least one NHBA component of 4CMenB. Of 42 % (n=15) isolates were covered by one 4CMenB antigen. The remaining 39% (n=14) and 19% (n=7) were covered by two and three 4CMenB antigens, respectively.

ULUSAL AŞI TAKVİMİ VE TAKVİM DIŞI

AŞILARIN UYGULAMA ÖNERİLERİ

EHD

ENFEKSİYON HASTALIKLARI DERNEĞİ

ÇOCUKLUK ÇAĞI AŞILAMA TAKVİMİ

ULUSAL AŞI TAKVİMİ

	Doğumda	1. Ayın Sonunda	2. Ayın Sonunda	4. Ayın Sonunda	6. Ayın Sonunda	12. Ayın Sonunda	18. Ayın Sonunda	24. Ayın Sonunda	İlköğretim 1. Sınıf	İlköğretim 8. Sınıf
Hepatit B Aşısı	I	II			III					
Verem Aşısı			I							
Konjuge Pnömokok Aşısı			I	II		R				
DaBT-İPA-Hib Aşısı			I	II	III		R			
Oral Polio Aşısı					I		II			
Suçiçeği Aşısı						I				
KKK Aşısı						I			II	
Hepatit A Aşısı							I	II		
DaBT-İPA									R	
Erişkin Tipi Difteri-Tetanoz Aşısı										R

ULUSAL AŞI TAKVİMİ DIŞINDAKİ AŞILAR

Önerilen Meningokok Aşı Takvimi*	[illegible]	[illegible]
6. Aya kadar Aşılanmadıysa	[illegible]	[illegible]
12-24 Aylık Çocuk (Daha Önce Aşılanmamış)	[illegible]	[illegible]
≥ 24 Aylık Çocuk	[illegible]	[illegible]
Önerilen Rota Aşı Takvimi*	Monovalan Rota Aşısı	1. DOZ, 2. DOZ
	Pentavalan Rota Aşısı	1. DOZ, 2. DOZ, 3. DOZ
Önerilen HPV Aşı Takvimi		2. DOZ

ULUSAL AŞI TAKVİMİ VE TAKVİM DIŞI AŞILARIN UYGULAMA ÖNERİLERİ

ULUSAL AŞI TAKVİMİ

	Ay/Yaş																
	Doğumda	1. Ay	2. Ay	3. Ay	4. Ay	5. Ay	6. Ay	7. Ay	8. Ay	9. Ay	10. Ay	11. Ay	12. Ay	18. Ay	24. Ay	İlköğretim 1. Sınıf	İlköğretim 8. Sınıf
Hepatit B Aşısı	I	II					III										
Verem Aşısı			I														
Konjuge Pnömokok Aşısı			I		II								R				
DaBT-İPA-Hib Aşısı			I		II		III							R			
Oral Polio Aşısı							I							II			
Suçiçeği Aşısı													I				
KKK Aşısı													I			II	
Hepatit A Aşısı														I	II		
DaBT-İPA																R	
Erişkin Tipi Difteri-Tetanoz Aşısı																	R

ULUSAL AŞI TAKVİMİ DIŞINDAKİ AŞILAR

Ay/Yaş

		2. Ay	3. Ay	4. Ay	5. Ay	6. Ay	7. Ay	8. Ay	9. Ay	10. Ay	11. Ay	12-13.ay	18.ay	24.ay	İlköğretim 1. Sınıf	İlköğretim 8. Sınıf
ÖNERİLEN MENİNGOKOK AŞI TAKVİMİ†	MenACWY-TT*	1. DOZ		2. DOZ								RAPEL				
	MenACWY-CRM**	1. DOZ		2. DOZ		3. DOZ						RAPEL				
	4CMenB***	1. DOZ		2. DOZ		3. DOZ						RAPEL				
› 6. Aya kadar Aşılanmadıysa	MenACWY-TT*					1. DOZ						RAPEL				
	MenACWY-CRM**						1. DOZ					RAPEL				
	MenACWY-DT***							1. DOZ				RAPEL				
	4CMenB***					1. DOZ		1. DOZ				RAPEL				
› 12. Aya kadar Aşılanmadıysa (24 aya kadar)	MenACWY-TT*											1 DOZ				
	MenACWY-CRM**											2 DOZ				
	MenACWY-DT***											2 DOZ				
	4CMenB***											2 DOZ + RAPEL				
› ≥ 24. Aya kadar Aşılanmadıysa	MenACWY-TT*													1 DOZ		
	MenACWY-CRM**													1 DOZ		
	MenACWY-DT***													1 DOZ		
	4CMenB***													2 DOZ		
ÖNERİLEN ROTA AŞI TAKVİMİ¥	Monovalan Rota Aşısı	1. DOZ		2. DOZ												
	Pentavalan Rota Aşısı	1. DOZ		2. DOZ		3. DOZ										
ÖNERİLEN HPV AŞI TAKVİMİ																2. DOZ‡

Ulusal aşı çalıştayı önerisi-2018

- Yaş dağılımı
- Olgular ve ölümlerin çoğunluğu 0-5 yas arası çocuklar

Ergenlerde insidans piki yok

- Serogrup dağılımı
- 2009-2016 W135 iken 2017 sonrası B en yüksek
- Konjuge aşılar ulusal aşı takvimine eklenmeli
  - Öncelik 1 yas altına verilmeli, yakalama aşıları ile çocuk ve ergenleri kapsamalı
  - MenB ruhsat aldığında takvime eklenmeli
- Riskli gruplara, hacılarda olduğu gibi ücretsiz yapılmalı
- Polis, asker, yatılı öğrenciler, kompleman yetersizliği olanlar...

2019/1440H-Hajj and Umrah Health Regulations

Health Requirements and Recommendations for Travellers to Saudi Arabia for Hajj and Umrah

The Ministry of Health in the Kingdom of Saudi Arabia issued this document to address the health requirements and recommendations for visitors traveling to Saudi Arabia for the purposes of Umrah, Hajj, or seasonal works in Hajj and Umrah areas during the 1440H (2019G).

in this Section

- Health Guidelines Before Hajj
- Health Regulations
- After Hajj
- Chronic Diseases
- During Hajj
- Woman And Child

Meningococcal meningitis:

Adults and children aged over 2 years arriving for Umrah, Hajj or for seasonal work in Hajj zones, are required to submit a valid vaccination certificate with a quadrivalent (ACYW) meningococcal vaccine administered not less than 10 days prior to the planned arrival to Saudi Arabia.

Vaccination with ONE of the following vaccines is acceptable:

Quadrivalent (ACYW) polysaccharide vaccine within the last 3 years.
Quadrivalent (ACYW) conjugate vaccine within the last 5 years.

Current scientific evidence suggests that conjugate vaccines are safe and effective for those above 55 years of age.

Vaccination with Quadrivalent (ACYW) conjugate vaccine is also required for:

Domestic pilgrims.

Residents of the two holy cities (Makkah and Medina).

Any person who might get in contact with pilgrims including personnel in healthcare settings and other authorities.

The Ministry of Health in the Kingdom of Saudi Arabia may opt to administer prophylactic antibiotics to some travelers to at the points of entry if deemed necessary.

human VACCINES & IMMUNOTHERAPEUTICS

Hum Vaccin Immunother. 2017 Feb; 13(2): 359–368.
Published online 2016 Dec 8.
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PMCID: PMC5328222
PMID: 27929751

Recommended vaccinations for asplenic and hyposplenic adult patients

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This article has been cited by other articles in PMC.

ABSTRACT

Go to:

Asplenic or hyposplenic (AH) individuals are particularly vulnerable to invasive infections caused by encapsulated bacteria. Such infections have often a sudden onset and a fulminant course. Infectious diseases (IDs) incidence in AH subjects can be reduced by preventive measures such as vaccination. The aim of our work is to provide updated recommendations on prevention of infectious diseases in AH adult patients, and to supply a useful and practical tool to healthcare workers for the management of these subjects, in hospital setting and in outpatients consultation. A systematic literature review on evidence based measures for the prevention of IDs in adult AH patients was performed in 2015. Updated

Hum Vaccin Immunother

Indications, doses, timing of the main vaccinations and booster doses in asplenic subjects or candidates for splenectomy.

Vaccine	Indications and doses	Timing of vaccination	Booster doses
Pneumococcal	✓ Naïve subjects: PCV13 (1 dose) followed by PPSV23 (1 dose) at least 8 weeks later.	In case of splenectomy:	PPSV23: 1 dose 5 years after PPSV23
	✓ In patients who have previously received PPSV23, administer PCV13 ≥ 1 year later.	-At least two weeks before elective surgery [4,5]	
	✓ In patients who have previously received PCV13, repeat 1 dose of PCV13 followed by PPSV23 ≥ 8 weeks later.	-After two weeks post-operatively in emergency cases	
Meningococcal	✓ Naïve subjects: 2 doses of Men ACWY conjugate vaccine given 8–12 weeks apart from each other.[1]	In case of functional asplenia: as soon as possible	Men ACWY: 1 dose every 5 years
	✓ In patients previously vaccinated with a single dose of Men ACWY or Men C, repeat the entire cycle (2 doses 8–12 weeks apart from each other)[1]		MenB: not recommended
	✓ Men B vaccine: 2 doses administered at least 2 months apart from each other.		

Eculizumab (Soliris®) ve ravulizumab KÜB

Vaccinate for meningococcal disease according to the most current Advisory Committee on Immunization Practices (ACIP) recommendations for patients with complement deficiencies. Revaccinate patients in accordance with ACIP recommendations, considering the duration of Soliris therapy.

Immunize patients without a history of meningococcal vaccination at least 2 weeks prior to receiving the first dose of Soliris. If urgent Soliris therapy is indicated in an unvaccinated patient, administer meningococcal vaccine(s) as soon as possible.

In prospective clinical studies, 75/100 patients with aHUS were treated with Soliris less than 2 weeks after meningococcal vaccination and 64 of these 75 patients received antibiotics for prophylaxis of meningococcal infection until at least 2 weeks after meningococcal vaccination. The benefits and risks of antibiotic prophylaxis for prevention of meningococcal infections in patients receiving Soliris have not been established.

Vaccination reduces, but does not eliminate, the risk of meningococcal infections. In clinical studies, 2 out of 196 PNH patients developed serious meningococcal infections while receiving treatment with Soliris; both had been vaccinated [*see Adverse Reactions (6.1)*]. In clinical studies among non-PNH patients, meningococcal meningitis occurred in one unvaccinated patient. In addition, 3 out of 130 previously vaccinated patients with aHUS developed meningococcal infections while receiving treatment with Soliris [*see Adverse Reactions (6.1)*].

Closely monitor patients for early signs and symptoms of meningococcal infection and evaluate patients immediately if an infection is suspected. Meningococcal infection may become rapidly life-threatening or fatal if not recognized and treated early. Discontinue Soliris in patients who are undergoing treatment for serious meningococcal infections.

Teşekkür ederim