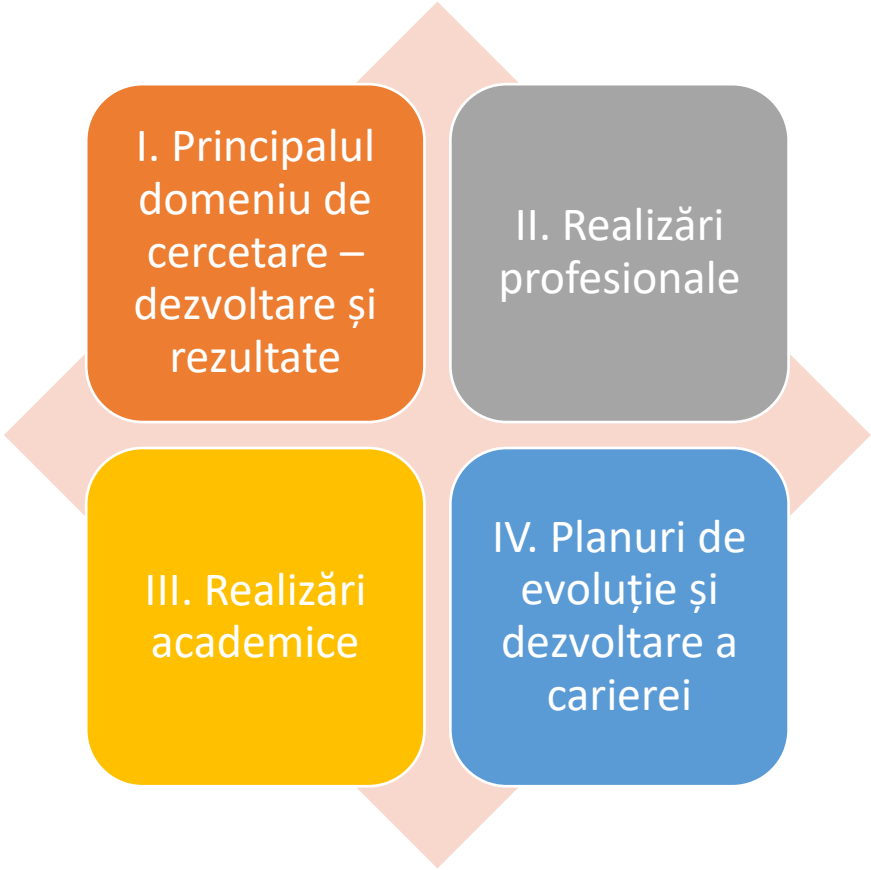
TEZĂ DE ABILITARE

Impactul infecțiilor acute la populația pediatrică

17.12.2021

Agenda


I. Principalul domeniu de cercetare – dezvoltare și rezultate
II. Realizări profesionale
III. Realizări academice
IV. Planuri de evoluție și dezvoltare a carierei

Principalul domeniu de cercetare-dezvoltare și rezultate

The Pediatric Infectious Disease Journal • Volume 30, Number 1, January 2011

STREPTOCOCCUS PNEUMONIAE NASOPHARYNGEAL COLONIZATION IN CHILDREN IN BRASOV, CENTRAL ROMANIA

HIGH ANTIBIOTIC RESISTANCE AND COVERAGE BY CONJUGATE VACCINES

Oana Falup-Pecurariu, MD, Laura Bleotu, MD,**
Cristina Zavarache, MD, Nechama Peled, MSc,†‡*
Oana Anton, MD, Michaela Robu, MD,**
Cristian Falup-Pecurariu, MD, Liliana Rogozea, MD,**
Nurith Porat, MD,‡§ David Greenberg, MD,‡§
Ron Dagan, MD,‡§ and Eugene Leibovitz, MD‡§

400 copii, <5 ani
4 centre

- Scopul studiului:
  - Identificarea serotipurilor de *Streptococcus pneumoniae*
  - Evaluarea rezistenței la antibiotic a serotipurilor de pneumococ
- Noutăți:
  - primele date de portaj publicate pe populație sănătoasă în România
  - rezistența la antibiotice la data respectivă
  - importanța introducerii pe schema Națională de imunizare a vaccinului pneumococic conjugat

TABLE 1. Colonization Data on Various Age Group Among 400 Infants and Children Enrolled at 4 Sampling Centers

Age (mo)	Daycare Center (n = 100)	Elective Surgery (n = 100)	Immunization Clinics (n = 100)	Emergency Room (n = 100)	Total (n = 400)
<12	1/2 (50)*	9/18 (50)	53/90 (59)	7/8 (88)	70/118 (59)
13–24	11/11 (100)	12/17 (71)	6/7 (86)	3/9 (33)	32/44 (73)
≤24	12/13 (92)	21/35 (60)	59/97 (61)	10/17 (59)	102/162 (63)
25–36	13/16 (82)	5/17 (29)	0/0	4/18 (22)	22/51 (43)
37–48	33/35 (94)	7/23 (30)	2/2 (100)	14/37 (38)	56/97 (58)
49–60	13/36 (36)	5/25 (20)	1/1	6/28 (21)	25/90 (28)
Total colonized	71†	38†	62	34†	205/400 (51)

*In parentheses: % colonized of all patients of same age.
†$P < 0.001$.

TABLE 2. Resistance Patterns to Various Antibiotics According to *S. pneumoniae* Serotypes

Serotype	No. Isolates	PEN	TMP/SMX	ERY	CLIN	TETR	CHL	CRO
6A	16	15/16 (94) 0/16*	13/16 (81)	15/16 (94)	15/16 (94)	15/16 (94)	0/16	0/16
6B	31	29/31 (94) 18/31 (58)*	28/31 (90)	27/31 (87)	28/31 (90)	24/31 (77)	0/31	0/31
11A	6	3/6 (50) 0/6*	2/6 (33)	0/6	0/6	0/6	0/6	0/6
14	20	20/20 (100) 9/20 (45)*	20/20 (100)	6/20 (30)	6/20 (30)	5/20 (25)	0/20	0/20
19A	11	11/11 (100) 0/11*	11/11 (100)	6/11 (55)	6/11 (55)	6/11 (55)	0/11	0/11
19F	26	24/26 (92) 16/26 (62)*	24/26 (92)	23/29 (79)	11/26 (42)	23/26 (88)	0/26	0/26
23F	52	48/52 (92) 35/52 (67)*	46/52 (88)	41/52 (79)	41/52 (79)	12/52 (23)	0/52	33/52 (63)

In parentheses: % of all isolates.
*High penicillin resistance (MIC [mtequ] 2.0 μg/mL).
PEN indicates penicillin; TMP/SMX, trimetoprim/sulfamethoxazole; ERY, erythromycin; CLIN, clindamycin; TETR, tetracycline; CHL, chloramphenicol; CR0, ceftriaxone.

Concluziile studiului

- Ratele de portaj nazofaringian la populația pediatrică din Brașov, au fost mari la cei cu vârsta de sub 2 ani și la cei care frecventau creșa
- Acoperirea vaccinală cu PCV-7 a fost mai mică în studiul nostru față de cea a vaccinului PCV-13
- ! Rezistență mare la antibiotice în cadrul populației pediatrice
  - problema transmiterii rezistenței la antibiotice a pneumococilor în cadrul comunității

Pneumococcal acute otitis media in infants and children in central Romania, 2009–2011: microbiological characteristics and potential coverage by pneumococcal conjugate vaccines

O. Falup-Pecurariu [a], E. Leibovitz [b,*], A. Mercas [a], L. Bleotu [a], C. Zavarache [a], N. Porat [b], R. Dagan [b], D. Greenberg [b]

International Journal of Infectious Diseases 17 (2013) e702–e706

- Scopul studiului:
  - evaluarea otopatogenilor și a modelelor de rezistență la antibiotice
  - Acoperirea cu PCV a serotipurilor de *S. pneumoniae* izolate din lichidul din urechea medie

- 212 copii <5 ani dg. cu otită medie acută (OMA)
- Perioada 2009-2011
- Colaborare cu Centrul Medical Soroka al Universității Ben Gurion, Beer-Sheva, Israel

Table 2
Streptococcus pneumoniae serotype distribution (in decreasing frequency) for 48 acute otitis media episodes

Serotype	No. episodes (%)	MDR
19F	14 (29.2)	13 (92.9%)
23F	8 (16.7)	8 (100%)
6B	8 (16.7)	8 (100%)
14	6 (12.5)	-
19A	3 (6.2)	3 (100%)
6A	2 (4.1)	1 (50%)
22F	2 (4.1)	-
9V	1 (2.1)	-
34	1 (2.1)	-
9A	1 (2.1)	-
7F	1 (2.1)	-
Omni-negative	1 (2.1)	-
Total	48	33 (68.7%)

MDR, multiple drug resistance.

Table 1
Acute otitis media microbiology of 212 episodes (111 culture-positive) during 2009–2011

Pathogen	No. of episodes[a]
Streptococcus pneumoniae	78 (70.3)
Haemophilus influenzae	23 (20.7)
Streptococcus pyogenes	5 (4.5)
Moraxella catarrhalis	2 (1.8)
S. pneumoniae + *H. influenzae*	3 (2.7)
Culture-positive	111
Culture-negative	101
Total	212

[a] The percentage of all culture-positive episodes is given in parenthesis.

Concluziile studiului

- Copiii diagnosticați cu OMA, având culturi pozitive, au fost mai mari comparativ cu cei care au avut culturi negative
- *S. pneumoniae* a fost principalul agent patogen identificat (74.3% dintre culturile pozitive)
- Majoritatea tulpinilor izolate au fost rezistente la penicilină, eritromicină și trimetoprim-sulfametoxazol, iar multidrog-rezistența a fost frecventă
- Vaccinurile pneumococice actuale ar putea preveni majoritatea OMA cu pneumococ, din regiune

Streptococcus pneumoniae Serotypes and Antibiotic Susceptibility Patterns in Middle Ear Fluid Isolates During Acute Otitis Media and Nasopharyngeal Isolates During Community-acquired Alveolar Pneumonia in Central Romania

Raluca-Ileana Lixandru, MD, Cristian Falup-Pecurariu, MD,† Laura Bleotu, MD,* Alice Mercas, MD,* Eugene Leibovitz, MD,‡§ Ron Dagan, MD,‡§ David Greenberg, MD,‡§ and Oana Falup-Pecurariu, MD**

Pediatr Infect Dis J. 2017 Feb;36(2):151-154

- **Scopul principal al studiului**
  - de a compara modelele de rezistență ale pneumococului la antibiotice, la copiii cu OMA și pneumonie comunitară
- Studiu de tip *prospectiv* (2009-2014)
- Copiii înrolați care nu au fost vaccinați anterior cu nici unul dintre vaccinurile PCV 7, 10 sau 13 valent
- 52.7% din cele 391 de culturi obținute prin miringotomie au fost serotipate
- 88 dintre copiii cu pneumonie comunitară au avut culturi nazale pozitive pentru pneumococ

TABLE 1. Demographic and Clinical Characteristic of Children With Pneumococcal AOM and Pneumococcal Carriage during CAAP in Brasov, Romania

	AOM N = 68	CAAP N = 88	*P* Value
Age months (mean ± SD)	24.2 (18.6)	27.0 (28.5)	0.456
Male, n (%)	39 (57.4)	47 (53.4)	0.623
Rural area, n (%)	13/29 (44.8)	51/88 (57.9)	0.218
Crowded house*	10/16 (62.5)	43/83 (51.8)	0.432
Passive smoking	14/23 (60.8)	51/83 (61.4)	0.95

*Crowdedness was defined as >5 persons in 1 room.
SD indicates standard deviation.

TABLE 2. Serotypes Distribution of *S. pneumoniae* Isolated From Children With AOM Versus Pneumococcal NP Carriage During CAAP in Brasov, Romania

Serotype, n (%)	AOM N = 68	CAAP N = 88	*P* value
19F	24 (35.3)	15 (17.0)	0.009
23F	11 (16.2)	20 (22.7)	0.309
14	9 (13.2)	5 (5.7)	0.102
6B	8 (11.8)	17 (19.3)	0.202
19A	5 (7.4)	6 (6.8)	0.897
6A	2 (2.9)	4 (4.5)	0.605
3	0 (0)	2 (2.3)	0.505
15B/C	0 (0)	2 (2.3)	0.505
Other	9 (13.2)	17 (19.3)	0.312
PCV7 serotypes*, n (%)	53 (77.9)	60 (68.2)	0.176
PCV13 serotypes†, n (%)	61 (89.7)	72 (81.8)	0.168
Non-PCV13 serotypes, n (%)	7 (10.3)	16 (18.2)	0.168

*4, 6B, 9V, 14, 18C, 19F and 23F.
†1, 3, 4, 5, 6A, 6B, 7F, 9V, 14, 18C, 19A, 19F and 23F.
PCV7 indicates 7-valent pneumococcal conjugate vaccine.

Pediatr Infect Dis J. 2017 Feb;36(2):151-154

Concluziile studiului

- Primul studiu din România care a comparat două boli mucozale și a dovedit implicarea în patologie a portajului nazofaringian
- Nișa biologică reprezentată de către fosele nazale este și cea care va determina serotipul din pneumoniile comunitare
- Rezistența la antibiotice a fost înaltă la pacienții noștri
- Serotipul 19F are o preferință pentru otitele medii și implicit urechea internă

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CASE REPORT

Acute pericarditis caused by *Streptococcus pneumoniae* in young infants and children: Three case reports and a literature review

Yael Feinstein [a], Oana Falup-Pecurariu [b], Maria Mitrică [b], Eitan N. Berezin [c], Rodrigo Sini [c], Hana Krimko [a], David Greenberg [d,*]

- Pericardita: rară la toate categoriile de vârstă; asociată cu mortalitate crescută
- Prezentarea a 3 cazuri de pericardită cu *S. pneumoniae* la copii anterior sănătoși alături de o trecere în revistă a literaturii de specialitate

Table 1 Pneumococcal pericarditis in children: literature review and present case reports

Case No. [Ref.]	Gender	Age	Presenting symptoms	Preceding/concurrent infection	Underlying medical conditions	Outcome	Serotype	Penicillin susceptibility[a]
1[3]	Male	13 years	Fever, cough	GVHD	BMT due to CML	No sequelae	ND	Penicillin sensitive
2[5]	Female	1 year, 5 months	Fever, URTI, dyspnea	Osteomyelitis of right ileum	None	No sequelae	ND	ND
3[6]	Female	13 years	URTI, fever, cough	Pneumonia	SLE	Died	14	Penicillin sensitive (MIC 0.032 μg/ml)[b]
4[7]	Male	8 months	Dyspnea, fever	Hemolytic uremic syndrome	None	No sequelae	14	Penicillin sensitive
5[8]	Female	6 months	URTI, tachypnea, hypoxia, fever	Pneumonia	None	ND	ND	Penicillin resistant
6[9]	Male	3 years	Fever, respiratory symptoms	Pneumonia	None	No sequelae	ND	ND
7[9]	Male	10 months	Fever, respiratory symptoms	Pneumonia	None	Constriction of pericardium	ND	ND
8 [9]	Male	6 months	Fever, respiratory symptoms	Undetermined	None	No sequelae	ND	Penicillin sensitive
9[10]	Male	9 months	URTI, fever	Undetermined	None	No sequelae	ND	ND
10[11]	ND	<12 years	Fever	Undetermined	None	ND	ND	ND
11	Female	20 months	Fever, respiratory symptoms	Upper respiratory infection	None	No sequelae	6A	Penicillin sensitive (MIC 0.25 μg/ml)[b]
12	Male	10 years	Fever, fatigue, anorexia and pallor	Upper respiratory infection	None	No sequelae	ND	ND
13	Female	7 months	Respiratory symptoms	Undetermined	None	Convulsions and neurogenic dysphagia	23F	Penicillin sensitive (MIC 0.125 μg/ml)[b]

GVHD, graft-versus-host disease; BMT, bone marrow transplantation; CML, chronic myeloid leukemia; URTI, upper respiratory tract infection; SLE, systemic lupus erythematosus; MIC, minimal inhibitory concentration; ND, no data.

[a] Penicillin resistance was considered as MIC <2 μl.

[b] The MIC was reported in only in three cases (numbers 3, 11, and 13).

RESEARCH Open Access

Comparison between diagnosis and treatment of community-acquired pneumonia in children in various medical centres across Europe with the United States, United Kingdom and the World Health Organization guidelines

Vytautas Usonis[1], Rimvydas Ivaskevicius[1], Javier Diez-Domingo[2], Susanna Esposito[3], Oana G. Falup-Pecurariu[4], Adam Finn[5], Fernanda Rodrigues[6], Vana Spoulou[7], George A. Syrogiannopoulos[8,9], David Greenberg[10,11*], CAP-PRI Working Group

- Chestionar dezvoltat cu colegi din 7 țări
- Participanți:
  - 22 centre de pediatrie, 20 de țări

- *Pneumonia comunitară afectează 34-40 copii la 1000 de copii < 5 ani (în condițiile în care la noi în țară, nu se vaccina împotriva pneumococului)*
- Scopul studiului: compararea practicilor de diagnostic și tratament ale pneumoniei în diferite centre europene, comparativ cu ghidurile în vigoare

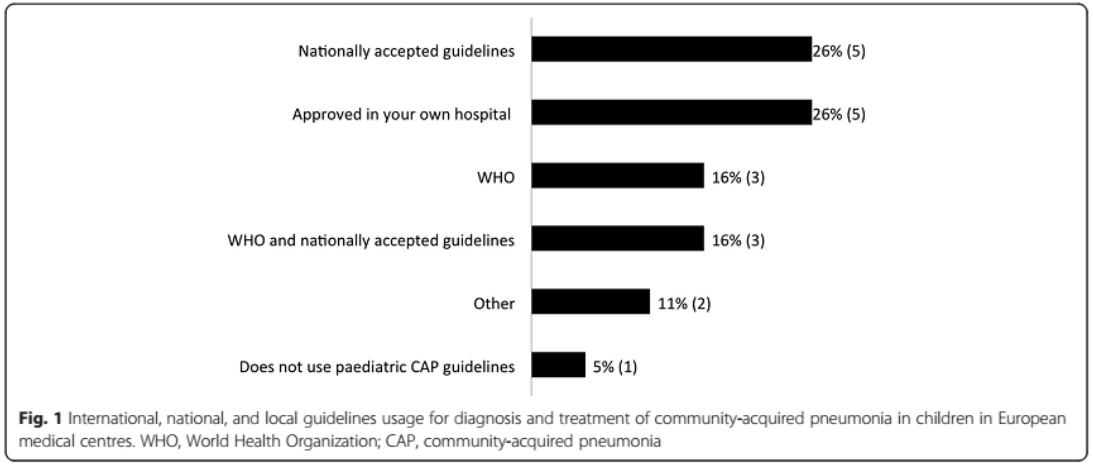


Fig. 1 International, national, and local guidelines usage for diagnosis and treatment of community-acquired pneumonia in children in European medical centres. WHO, World Health Organization; CAP, community-acquired pneumonia

Table 1 Comparison of clinical signs and symptoms to determine community-acquired pneumonia (CAP) severity among different European medical centres compared with the United States [13], United Kingdom [1] and World Health Organization [14] guidelines

Sign or symptom	Guidelines			European study[a]
	PIDS-IDSA	BTS[b]	WHO	
Tachypnoea	✓[c]	✓	✓[c]	✓
Chest recession/indrawing/ retractions	✓	✓	✓	✓
Nasal flaring	✓			✓
Cough			✓[d]	✓
Grunting	✓		✓[d]	
Apnoea	✓			
Fever		✓		✓
Difficulty breathing/respiratory distress	✓		✓[d]	✓
Low oxygen saturation	✓ (<90 %)	✓ (<92 %)	✓[d] (<90 %)	✓ (<95 %)
Abdominal pain				✓
General danger signs (inability to drink, vomiting, lethargy, convulsions)			✓[d]	
Altered mental status	✓			
Cyanosis			✓[d]	
Auscultation revealing absent breath sounds with a dull percussion note or crackles		✓	✓	✓

PIDS-IDSA Pediatric Infectious Diseases Society and the Infectious Diseases Society of America, *BTS* British Thoracic Society, *WHO* World Health Organization

[a]Indications for hospitalisation, only when >50 % of medical centres reported using the parameter

[b]Recommendations for bacterial pneumonia

[c]Respiratory rate adjusted by age

[d]Symptom of severe CAP

Pneumonia. 2016 May 2;8:5

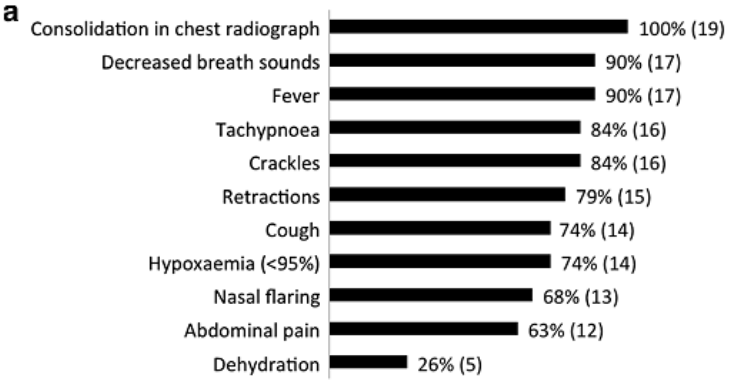


Fig. 2 Percentage of European medical centres that use the specified clinical and laboratory diagnostic parameters for community-acquired pneumonia in children in European medical centres. **a** Clinical parameters **b** Laboratory tests. *Includes *Mycoplasma* and *Chlamydia* for serology and respiratory syncytial virus, adenovirus, and influenza virus for viral diagnostic tests

Pneumonia.2016 May 2;8:5

Table 2 Comparison of inpatient diagnostic test indications for community-acquired pneumonia (CAP) across different European medical centres compared with United States [13] and United Kingdom [1] guidelines

Diagnostic test	Guideline		European study
	PIDS-IDSA	BTS	
Chest radiograph	Yes	Yes	Yes
Complete blood count	Yes[a]	No	Yes
Acute phase reactants (CRP, serum PCT, ESR)	Yes[a,b]	No	Yes
Sputum samples for bacteria	Yes	Not specified	Yes[c]
Tests for *Mycoplasma*, *Chlamydia*[d]	Yes	Yes	Yes[c]
Tests for respiratory viruses[d]	Yes	Yes	Yes[c]
Blood culture	Yes	Yes	Yes
Nasopharyngeal secretions	Not specified	Yes	Yes[c]
Serum electrolytes	Not specified	Not specified	Yes
Not recommended	Urinary antigen detection for pneumococcus Diagnostic testing for *Chlamydophila pneumoniae*	Urinary Antigen detection for pneumococcus Acute phase reactants	
Other	Tracheal aspirates for gram stain and culture	Pleural fluid for microscopy, culture and antigen detection	

With the exception of a chest radiograph, the World Health Organization does not mention use of specific inpatient diagnostic testing and is excluded from the table

PIDS-IDSA Pediatric Infectious Diseases Society and the Infectious Diseases Society of America, *BTS* British Thoracic Society, *ESR* erythrocyte sedimentation rate, *CRP* C-reactive protein, *PCT* procalcitonin

[a]Diagnostic test recommended only for those with severe disease

[b]Acute phase reactants cannot be used as the sole determinant to distinguish between viral and bacterial causes of CAP

[c]Tests recommended in <50 % of medical centres

[d]Serology, polymerase chain reaction, culturing and other tests are available but no specific test is recommended

Table 3 Comparison of antimicrobial empiric therapy recommendations for children with community-acquired pneumonia across different European medical centres compared with the United States [13], United Kingdom [1] and World Health Organization [14] guidelines

Site of care	Empiric therapy			
	Guideline			European study[a]
	PIDS-IDSA	BTS	WHO	
Outpatient				
First-Line	Amoxicillin	Amoxicillin	Amoxicillin	Amoxicillin Clarithromycin Azithromycin
Second Line	Macrolides[b] Azithromycin Clarithromycin Erythromycin	Macrolides[c] Erythromycin Azithromycin Clarithromycin Co-amoxiclav[d] Cefaclor Ceftriaxone	Not Specified	Cefuroxime Amoxicillin/Clavulanic ac.
Inpatient				
First-line	Ampicillin Penicillin G	Amoxicillin	Ampicillin (or benzylpenicillin) and Gentamicin	Amoxicillin Ampicillin Benzyl penicillin Azithromycin
Second-Line	Cephalosporin[e] ß-lactam[c] Vancomycin or Clindomycin[f]	Macrolides[c] Co-amoxiclav Cefuroxime Cefotaxime Ceftriaxone	Gentamicin Cloxacillin Ceftriaxone	Amoxicillin/Clavulanic ac. Cefotaxime

PIDS-IDSA Pediatric Infectious Diseases Society and the Infectious Diseases Society of America, *BTS* British Thoracic Society, *WHO* World Health Organization

[a]Only drugs recommended in >30 % of the medical centres are shown, none of these drugs were recommended in >50 % of medical centres

[b]For atypical pathogens, preferred and alternative agents for specific pathogens are extensively listed in [4]

[c]For children in whom *Mycoplasma pneumoniae* and *Chlamydophila pneumoniae* are significant considerations

[d]For pneumonia associated with influenza

[e]For hospitalised infants and children who are not fully immunised

[f]In addition to ß-lactam therapy if *Staphylococcus aureus* suspected

Pneumonia. 2016 May 2;8:5

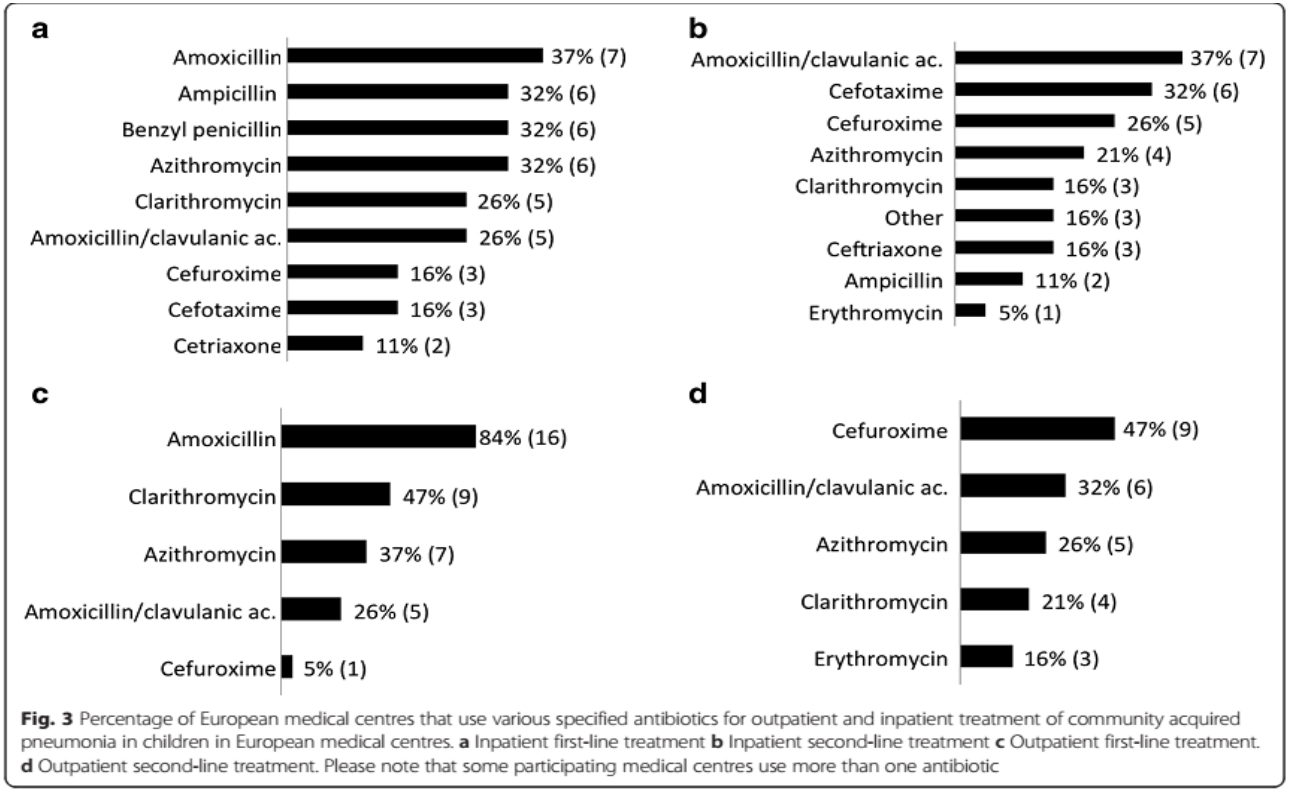


Fig. 3 Percentage of European medical centres that use various specified antibiotics for outpatient and inpatient treatment of community acquired pneumonia in children in European medical centres. **a** Inpatient first-line treatment **b** Inpatient second-line treatment **c** Outpatient first-line treatment. **d** Outpatient second-line treatment. Please note that some participating medical centres use more than one antibiotic

Pneumonia. 2016 May 2;8:5

Concluziile studiului

- Variabilitate mare în ceea ce privește diagnosticul și tratamentul pneumoniei comunitare în Europa
  - Există însă și aspecte care reunesc aceste ghiduri (evaluarea radiologică a unei pneumonii)
  - OMS-ul nu recomandă teste de laborator pentru evaluarea pneumoniei, însă atât ghidurile americane cât și cele europene, utilizează marker-ii inflamatori pentru diagnosticul unei pneumonii
- Implementarea vaccinurilor pneumococice la nivelul lumii, împreună cu cea a vaccinului împotriva *H.influenzae* a dus la o scădere dramatică a numărului de cazuri de pneumonie datorată acestor doi patogeni

ORIGINAL ARTICLE

Clinical and laboratory features of children with community-acquired pneumonia are associated with distinct radiographic presentations

Oana G. Falup-Pecurariu[1] · Javier Diez-Domingo[2] · Susanna Esposito[3] · Adam Finn[4] · Fernanda Rodrigues[5] · Vana Spoulou[6] · George A. Syrogiannopoulos[7] · Vytautas Usonis[8] · David Greenberg[9] · on behalf of CAP-PRI

Eur J Pediatr. 2018 Jul;177(7):1111-1120

- Studiu de tip prospectiv observațional
- **Scopul studiului:** compararea simptomelor clinice și a rezultatelor paraclinice la pacienții cu diferite tipuri de pneumonie comunitară

- baza de date CAP-PRI
- 1107 pacienți
- 8 țări participante: Grecia, Israel, Italia, Lituania, România, Spania, UK

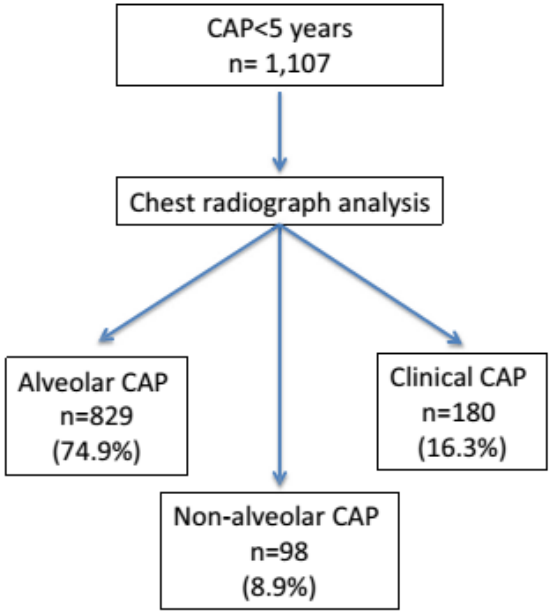


Table 1 Demographic, clinical, and laboratory characteristics of pediatric patients < 5 years with radiographically distinct presentations of community-acquired pneumonia (CAP)

	Alveolar CAP	Non-alveolar CAP	Clinical CAP	*P*
N	829 (74.9%)	98 (8.9%)	180 (16.3%)	
Age in months mean ± SD	24.7 ± 16.8	20.4 ± 14.8	23.4 ± 15.5	0.038α
Male % (*n*)	55.9(463)	53.1(52)	52.2(94)	NS
Hospitalization % (*n*)	84.6(701)	80.6(79)	78.3(141)	0.054β
Mean temperature (°C) ± SD (*n*)	38.9 ± 1.1(633)	38.8 ± 0.9(81)	38.6 ± 1.0(94)	0.006β
Respiratory rate ± SD (*n*)	44.6 ± 13.9 (712)	44.3 ± 10.9(91)	44.6 ± 11.9(110)	NS
O_2 saturation % (*n*)	94.8 ± 3.7(823)	94.6 ± 4.1(97)	95.7 ± 3.3(178)	0.0021β, γ
WBC				
N	744	82	138	
Mean (cells/mm^3) ± SD	17,760 ± 8540.6	15,160 ± 5997	13,180 ± 5892	< 0.001α, β, γ
% ≥ 15,000 (*n*)	57.7 (429)	47.6 (39)	30.4 (42)	< 0.001β,γ
% ≥20,000 (*n*)	36.2 (269)	22 (18)	10.1 (14)	< 0.001α, β, γ
ANC (cells/mm^3) ± SD (*n*)	11.5 ± 7.5(684)	9.2 ± 5.1(134)	7.3 ± 4.7(80)	< 0.001α, β, γ
CRP				
Mean* (μg/L) ± SD (*n*)	83.9 ± 103.6(254)	43.0 ± 76.6(54)	55.4 ± 69.5(14)	0.008 α
% ≥70 (*n*)	97 (38.2%)	9 (16.7%)	4 (28.6%)	0.006 α
Mean ESR (mm/h) ± SD (*n*)	46.2 ± 31.0(107)	45.4 ± 34.9(13)	34.3 ± 29.4(3)	NS

NS not significant

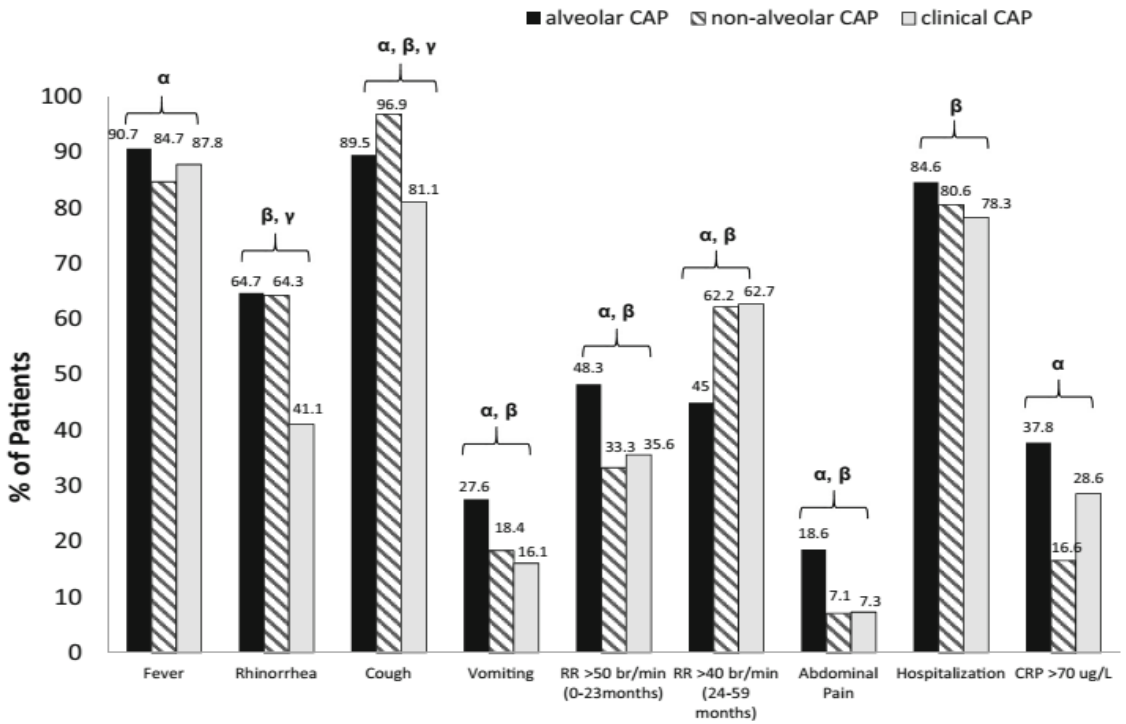
α Alveolar vs. non-alveolar CAP

β Alveolar vs. clinical CAP

γ Non-alveolar vs. clinical CAP

*After log transformation

Eur J Pediatr. 2018 Jul;177(7):1111-1120



Eur J Pediatr. 2018 Jul;177(7):1111-1120

Table 2 Clinical and laboratory characteristics of pediatric patients 0–23 months old with CAP in relation to radiographic categorizations

	Alveolar CAP	Non-alveolar CAP	Clinical CAP	*P*
Fever > 38.5 °C% (n/N)	87.8 (380/433)	78.3 (47/60)	86.8 (79/91)	NS
Rhinorrea% (n/N)	70.0 (303/433)	65.0 (39/60)	44.0 (40/91)	< 0.001β, 0.018γ
Cough % (n/N)	90.1 (390/433)	96.7 (58/60)	76.9 (70/91)	< 0.001β, 0.002γ
< 92 O_2 sat % (n/N)	20.9 (90/431)	16.9 (10/60)	13.2 (12/91)	NS
Respiratory rate ≥ 50 breaths/min% (n/N)	48.3 (184/381)	33.3 (18/54)	35.6 (21/59)	0.055α, 0.093β
Abdominal pain% (n/N)	3.5 (15/427)	5.0 (3/60)	2.2 (2/91)	NS
Vomiting% (n/N)	24.9 (108/433)	10.0 (6/60)	15.4 (14/91)	0.016α, 0.068β
Vaccination complete % (n/N)	67.1 (235/350)	59.2 (29/49)	55.6 (15/27)	NS
Hospitalization% (n/N)	87.8 (380/433)	85 (51/60)	84.6 (77/91)	NS
CRP > 70% (n/N)	27.1 (29/107)	11.8 (4/34)	60.0 (3/5)	0.032γ
Respiratory rate				
mean(breaths/min) ± SD	49.8 ± 13.8	46.6 ± 10.7	47.2 ± 11.7	NS
Median (breaths/min)	48	47	44	
Min–max	18–94	28–72	24–72	
n	381	54	59	
Days of fever				
Mean ± SD	3.6 ± 3.7	2.7 ± 2.2	2.7 ± 1.9	< 0.001α,β
Median	2	1	2	
Min–max	0–30	0–10	0–9	
n	371	46	76	
WBC				
Mean (cells/μl) ± SD	17,480 ± 8347.4	15,750 ± 6372.4	13,390 ± 5550.5	< 0.001ß
Median	16,690	14,790	12,720	
Min–max	2000–56,100	4790–32,700	1820–33,020	
n	393	53	78	
ANC				
Mean (cells/mm^3) ± SD	9.9 ± 6.6	8.6 ± 5.3	6.6 ± 4.1	< 0.001ß
Median (cells/mm^3)	8.7	8.1	5.9	
Min–max	0.47–40	0.877–25.1	0.69–19.69	
n	372	51	74	
CRP				
Mean (μg/L) ± SD	53 ± 71	37.4 ± 86	108.8 ± 94.2	NS
Median (μg/L)	24.7	15.6	12.7	
Min–max	0.2–424.9	1.1–499.2	5–212.5	
n	107	34	5	

NS not significant

[α] Alveolar vs. non-alveolar CAP

[β] Alveolar vs. clinical CAP

[γ] Non-alveolar vs. clinical CAP

Concluziile studiului

Noutatea studiului: diferențe remarcabile în cadrul grupelor analizate

- Radiografice
- Clinice: Febra - diferită pe grupe de vârstă; ritmul respirator
- Valorile probelor inflamatorii
- → *Pneumonia alveolară, cea non-alveolară și cea clinică: entități distincte*

Importanța vaccinului pneumococic

Clinical Microbiology and Infection 22 (2016) 643.e1–643.e6

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Original article

Factors associated with severity in invasive community-acquired *Staphylococcus aureus* infections in children: a prospective European multicentre study

M. Gijón, M. Bellusci, B. Petraitiene, A. Noguera-Julian, V. Zilinskaite, P. Sanchez Moreno, J. Saavedra-Lozano, D. Glikman, M. Daskalaki, P. Kaiser-Labusch, O. Falup-Pecurariu, C. Montagnani, L. Prieto, A. Gené, G. Trumpulyte, I. Kulecnikova, J.A. Lepe, E. Cercenado, R. Kudinsky, A. Makri, H.I. Huppertz, L. Bleotu, P. Cocchi, P. García-Hierro, A. Vitkauskiene, C. Fortuny, V. Zukovskaja, O. Neth, M. Santos, A. Rokney, M. Petra, R. Lixandru, L. Galli, S. Guillén, F. Chaves, P. Rojo Conejo*

Pediatric Infectious Diseases, Hospital Universitario 12 de Octubre, Madrid, Spain

- ***Scopul studiului:*** *analiza implicării stafilococului auriu PVL și MRSA in infecțiile comunitare severe la copil*

- 13 centre pediatrice
- 7 țări europene
- 152 pacienți 0-16 ani
- Chestionar standardizat + determinare PVL (Madrid)

Table 1
Demographic and clinical characteristics of patients with community-acquired invasive *Staphylococcus aureus* infections

Characteristic	Value
Male gender ($n = 152$)	88 (58%)
Age (years) ($n = 152$)	7.2 ± 5.4
Underlying disease ($n = 152$)[a]	42 (28%)
Hospital stay (days) ($n = 152$)	19.1 ± 13.6
Severe infection ($n = 152$)	26 (17%)
Mortality ($n = 152$)	3 (2%)
PVL positive ($n = 118$)	22 (18.6%)
MRSA ($n = 152$)	12 (7.8%)
Fever at admission (°C) ($n = 124$)	38.6 ± 1.1
CRP at admission (mg/dL) ($n = 147$)	10.1 ± 12.4
WBC at admission (cells/mm^3) ($n = 149$)	12 885 ± 702
Isolate in blood ($n = 152$)[b]	83 (54.6%)
Interventional procedures ($n = 152$)	77 (49%)

Data are presented as *n* (%) or mean ± SD.
CRP, C-reactive protein; MRSA, methicillin-resistant *S. aureus;* PVL, Panton-Valentine leukocidin; WBC, white blood cell count.
[a] Underlying disease included long-term intravascular access device ($n = 12$), chronic or acute predisposing diseases ($n = 13$), oncologic diseases ($n = 11$) and neonates ($n = 6$).
[b] Primary bacteraemia and bacteraemia resulting from superficial (soft tissue infections or other superficial seated infection) or deep-sited (pneumonia, osteomyelitis, pyomyositis) infections.

Table 2
Characteristics of severe versus nonsevere community-acquired invasive *Staphylococcus aureus* infections

Characteristic	Severe ($n = 26$)	Nonsevere ($n = 126$)	p	OR (95% CI)
Male/female	13/13	75/51	0.37	0.68 (0.29–1.58)
Age (years), mean ± SD	6.6 ± 5.9	7.3 ± 5.4	0.66	
Underlying disease[d]	8/26 (30.8%)	34/126 (27%)	0.71	1.18 (0.47–2.96)
Hospital stay (days), mean ± SD	30.4 ± 19.5	15.6 ± 10.3	<0.001	
WBC at admission (cells/mm^3), mean ± SD	11 716 ± 6598	13 041 ± 7080	0.39	
PVL positive[a]	9/25 (36%)	13/93 (15%)	0.012	3.46 (1.27–9.43)
MRSA	3/26 (11.5%)	10/125 (8%)	0.44	1.50 (0.38–5.88)
CRP at admission (mg/dL), mean ± SD	17.5 ± 11.2	8.8 ± 12.1	0.002	
Leucopenia at admission (<4000)	3/24 (12.5%)	4/125 (3.2%)	0.08	4.32 (0.98–20.71)
Leucopenia at admission (<3000)	3/24 (12.5%)	2/125 (1.6%)	0.03	8.79 (1.38–55.77)
Fever at admission (°C), mean ± SD	38.6 ± 0.8	38.6 ± 1.2	0.69	
Pneumonia	13/26 (50.0%)	13/126 (10.3%)	<0.001	8.7 (3.33–22.7)
Bone and joint infections	11/26 (42.3%)	74/126 (58.7%)	0.16	0.55 (0.23–1.28)
Primary bacteraemia	3/26 (11.5%)	22/126 (17.5%)	0.46	0.61 (0.17–2.23)
Result of SSTI bacteraemia[b]	0/26 (0%)	13/126 (10.3%)	0.13	0.16 (0.01–2.75)
Isolate in blood[c]	17/26 (65.4%)	66/126 (52.4%)	0.18	(0.75–4.35)

CI, confidence interval; CRP, C-reactive protein; MRSA, methicillin-resistant *Staphylococcus aureus*; OR, odds ratio; PVL, Panton-Valentine leukocidin; SSTI, skin and soft tissue infection; WBC, white blood cell count.
[a] Data regarding PVL presence were available in 118 samples.
[b] Bacteraemia resulting from soft tissue infections or other superficial seated infection.
[c] Primary bacteraemia and bacteraemia resulting from superficial (soft tissue infections or other superficial seated infection) or deep-sited (pneumonia, osteomyelitis, pyomyositis) infections.
[d] Risk factors for infection and/or invasive disease.

Table 5
Multivariate analysis of factors associated with severity

Factor	Adjusted OR (95% CI)	p
PVL positive	4.69 (1.39–15.81)	0.01
MRSA	4.30 (0.68–28.95)	0.13
Pneumonia	13.39 (4.11–43.56)	0.00
Leucopenia <3000 at admission	18.3 (1.3–259.9)	0.03

CI, confidence interval; PVL, Panton-Valentine leukocidin; MRSA, methicillin-resistant *Staphylococcus aureus*; OR, odds ratio.

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Table 3
Characteristics of PVL-positive versus PVL-negative infections

Characteristic	PVL positive (n = 22)	PVL negative (n = 96)	p	OR (95% CI)
Sex, M/F	13/9	60/36	0.76	0.86 (0.34–2.23)
Age (years), mean ± SD	7.9 ± 4.9	7.1 ± 5.4	0.61	
Underlying disease	4/22 (18.2%)	28/96 (29.5%)	0.43	1.87 (0.58–6.06)
Hospital stay (days), mean ± SD	24.3 ± 16.1	18.0 ± 12.0	0.042	
WBC at admission (cells/mm^3), mean ± SD	11 723 ± 6715	13 185 ± 70508	0.38	
Severe infection	9/22 (40.9%)	16/96 (16.7%)	0.012	3.46 (1.27–9.43)
MRSA[a]	4/22 (18.2%)	6/96 (6.25%)	0.07	3.33 (0.85–13.02)
CRP at admission (mg/dL), mean ± SD	14.4 ± 13.3	9.8 ± 13.5	0.16	
Leucopenia (<3000)	2/22 (9.5%)	2/96 (2.1%)	0.15	4.84 (0.64–36.55)
Fever at admission (°C), mean ± SD	38.9 ± 0.9	38.4 ± 1.2	0.05	
Pneumonia	7/22 (31.8%)	17/96 (17.7%)	0.15	2.17 (0.76–6.13)
Bone and joint infections	12/22 (54.5%)	58/96 (60.4%)	0.61	1.27 (0.50–3.24)
Primary bacteraemia	4/22 (18.2%)	10/96 (10.4%)	0.31	1.91 (0.54–6.78)
Resulting from SSTI bacteraemia[b]	2/22 (9.1%)	6/96 (6.2%)	0.64	1.50 (0.28–7.99)
Isolate in blood[c]	14/22 (63.6%)	50/96 (52.1%)	0.33	1.6 (0.62–4.19)

CI, confidence interval; CRP, C-reactive protein; MRSA, methicillin-resistant *Staphylococcus aureus;* OR, odds ratio; PVL, Panton-Valentine leukocidin; SSTI, skin and soft tissue infection; WBC, white blood cell count.
[a] Three MRSA isolates were not tested for PVL genes.
[b] Bacteraemia resulting from soft tissue infections or other superficial seated infection.
[c] Primary bacteraemia and bacteraemia resulting from superficial (soft tissue infections or other superficial seated infection) or deep-sited (pneumonia, osteomyelitis, pyomyositis) infections.

Table 4
Characteristics of MRSA versus MSSA infections

Characteristic	MRSA (n = 13)	MSSA (n = 139)	p	OR (95% CI)
Sex, M/F	6/4	79/60	0.141	2.64 (0.70–10.0)
Age (years), mean ± SD	6.6 ± 6.0	7.2 ± 5.4	0.76	
Underlying disease	5/13 (38.5%)	37/139 (27.0%)	0.38	1.69 (0.52–5.49)
Hospital stay (days), mean ± SD	21.2 ± 10.6	17.8 ± 13.6	0.31	
WBC at admission (cells/mm^3), mean ± SD	15 167 ± 11828	12 633 ± 6416	0.46	
PVL positive	4/10 (40.0%)	18/108 (16.7%)	0.07	3.33 (0.85–13.02)
Severe infection	3/13 (23.1%)	23/139 (16.7%)	0.70	1.5 (0.38–5.9)
CRP at admission (mg/dL), mean ± SD	15.3 ± 10.9	9.7 ± 12.4	0.12	
Leucopenia (<3000)	1/13 (7.7%)	4/139 (3%)	0.37	2.73 (0.28–26.32)
Fever at admission (°C), mean ± SD	39.0 ± 1.1	38.6 ± 1.1	0.20	
Pneumonia	6/13 (46.2%)	20/139 (14.5%)	0.004	5.06 (1.54–16.61)
Bone and joint infections	5/13 (38.5%)	79/139 (57.3%)	0.19	0.47 (0.15–1.50)
Primary bacteraemia	2/13 (15.4%)	23/139 (16.7%)	0.9	0.90 (0.19–4.38)
Resulting from SSTI bacteraemia[a]	1/13 (7.7%)	12/138 (91.4%)	1.0	0.88 (0.11–7.32)
Isolate in blood[b]	7/13 (53.8%)	76/139 (55.1%)	0.93	0.95 (0.30–2.98)

CI, confidence interval; CRP, C-reactive protein; MRSA, methicillin-resistant *Staphylococcus aureus;* MSSA, methicillin-susceptible *S. aureus;* OR, odds ratio; PVL, Panton-Valentine leukocidin; SSTI, skin and soft tissue infection; WBC, white blood cell count.
[a] Bacteraemia resulting from soft tissue infections or other superficial seated infection.
[b] Primary bacteraemia and bacteraemia resulting from superficial (soft tissue infections or other superficial seated infection) or deep-sited (pneumonia, osteomyelitis, pyomyositis) infections.

Clin Microbiol Infect. 2016 Jul;22(7):643.e1-6

Concluziile studiului

- 18.6% dintre tulpinile comunitare au fost PVL+
  → Factor de risc independent de gravitate
- 10 % din totalul cazurilor noastre au avut MRSA, care nu a fost asociat cu gravitatea afecțiunii stafilococice
- tratamentul antibiotic: Vancomicina și TMP-SMX nu au efect (indiferent de prezența/absența PVL)
  → ghidurile recente sugerează adăugarea unui antibiotic care ar putea inhiba producerea PVL, însă acest lucru nu s-a observat în studiul nostru

Effects of prophylactic ibuprofen and paracetamol administration on the immunogenicity and reactogenicity of the 10-valent pneumococcal non-typeable *Haemophilus influenzae* protein D conjugated vaccine (PHiD-CV) co-administered with DTPa-combined vaccines in children: An open-label, randomized, controlled, non-inferiority trial

Oana Falup-Pecurariu[a,#], Sorin C. Man[b,#], Mihai L. Neamtu[c,d], Gratiana Chicin[e], Ginel Baciu[f,g], Carmen Pitic[h], Alexandra C. Cara[i], Andrea E. Neculau[j], Marin Burlea[k], Ileana L. Brinza[l], Cristina N. Schnell[m], Valentina Sas[m], Valeriu V. Lupu[k], Nancy François[n], Kristien Swinnen[o], and Dorota Borys[n]

Hum Vaccin Immunother 2017 ;13(3):649-660

- Studiu multicentric
- **Scop:** evaluarea efectului administrării antitermicelor paracetamol și ibuprofen după administrarea vaccinurilor + PCV-10 valent

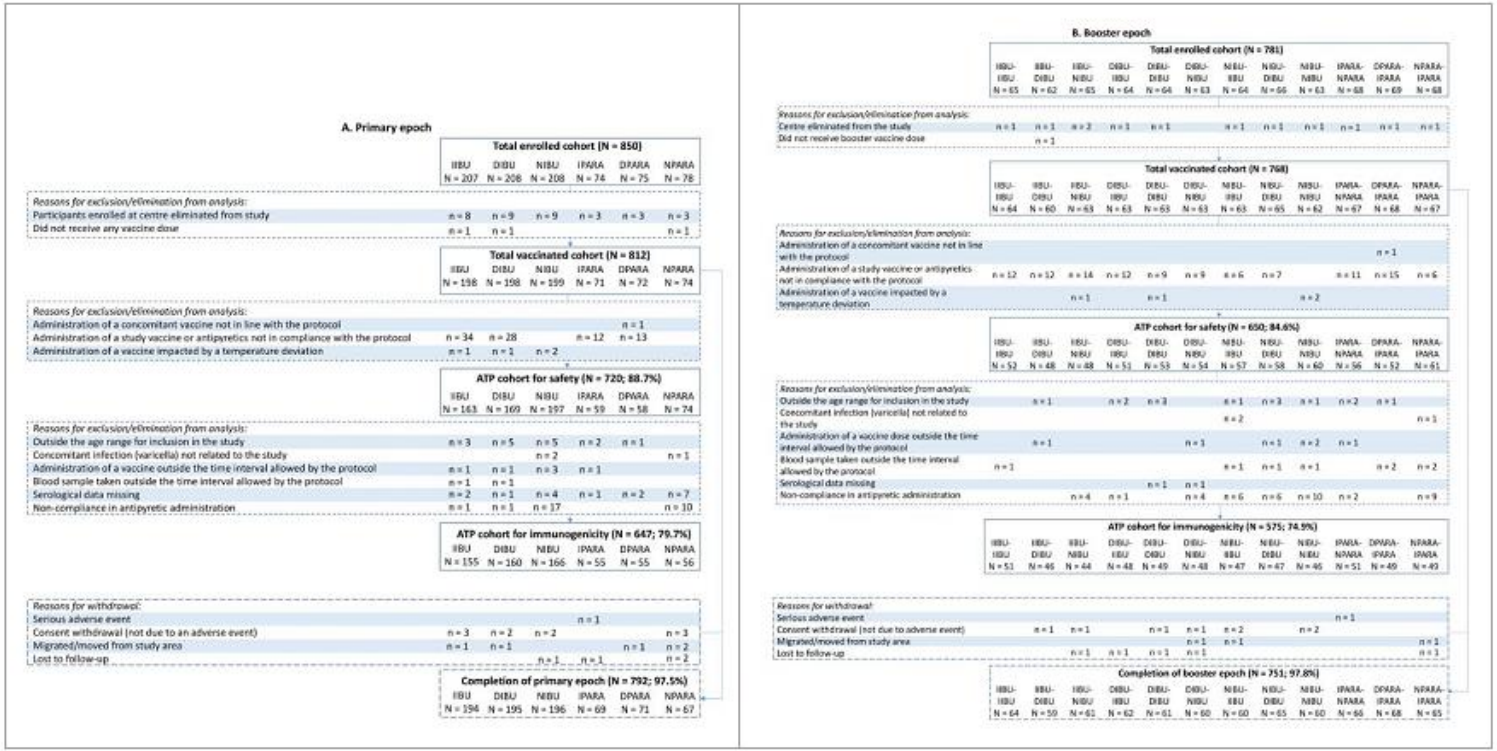


Figure 1. Participant flow chart. Footnote: **Primary vaccination**: PHiD-CV and DTPa-(HBV)-IPV/Hib at 3, 4, and 5 months of age, with the following prophylactic antipyretic regimen: IIBU, immediate ibuprofen; DIBU, delayed ibuprofen; NIBU, no ibuprofen; IPARA, immediate paracetamol; DPARA, delayed paracetamol; NPARA, no paracetamol. **Booster vaccination**: PHiD-CV and DTPa-HBV-IPV/Hib at 12–15 months of age, with the following prophylactic antipyretic regimen: at primary vaccination: immediate ibuprofen, and at booster: immediate (IIBU-IIBU), delayed (IIBU-DIBU) or no ibuprofen (IIBU-NIBU); at primary vaccination: delayed ibuprofen, and at booster: immediate (DIBU-IIBU), delayed (DIBU-DIBU) or no ibuprofen (DIBU-NIBU); at primary vaccination: no ibuprofen, and at booster: immediate (NIBU-IIBU), delayed (NIBU-DIBU) or no ibuprofen (NIBU-NIBU); immediate paracetamol at primary vaccination and no paracetamol at booster (IPARA-NPARA); delayed paracetamol at primary vaccination and immediate paracetamol at booster (DPARA-IPARA); no paracetamol at primary vaccination, and immediate paracetamol at booster (NPARA-IPARA). ATP, according-to-protocol; N, number of participants.

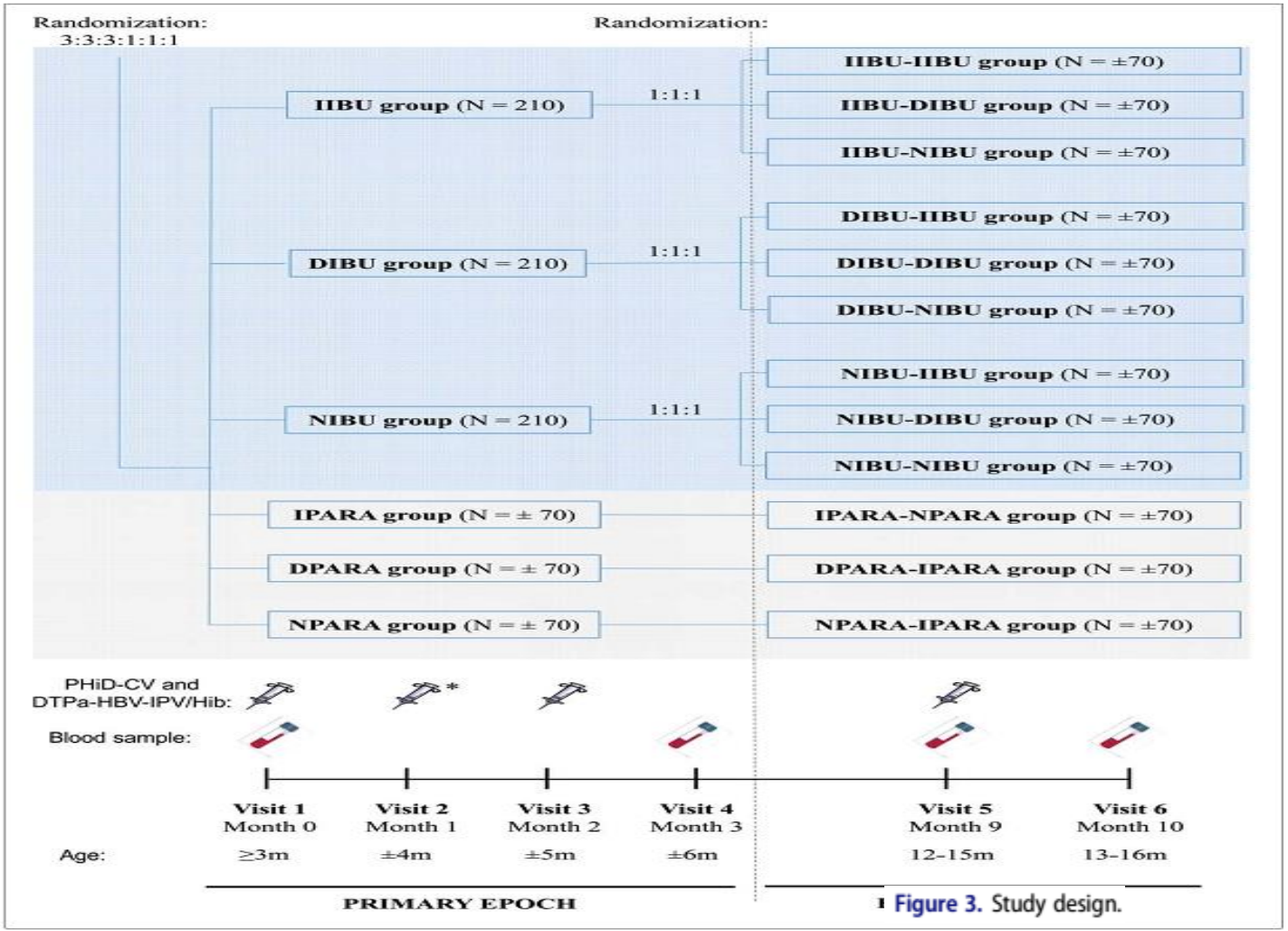


Figure 3. Study design.

Table 1. Serotype-specific pneumococcal and protein D antibody responses with pairwise group comparisons for the ibuprofen groups, at one month post-dose three (ATP cohort for immunogenicity).

Proportion of children with antibody concentrations ≥ 0.2 μg/mL

	% ≥ 0.2 μg/mL (95% CI)			Difference in % ≥ 0.2 μg/mL	
Serotype	IIBU N = 154	DIBU N = 158	NIBU N = 164	NIBU minus IIBU 98.25% CI (LL; UL)	NIBU minus DIBU 98.25% CI (LL; UL)
Vaccine serotypes					
1	100 (97.5; 100)	100 (97.6; 100)	99.4 (96.6; 100)	−0.62 (−4.52; 3.17)	−0.62 (−4.52; 2.91)
4	99.3 (96.2; 100)	100 (97.6; 100)	99.4 (96.5; 100)	0.06 (−3.94; 4.38)	−0.63 (−4.57; 2.91)
5	100 (97.5; 100)	100 (97.6; 100)	99.4 (96.5; 100)	−0.64 (−4.63; 3.19)	−0.64 (−4.63; 2.92)
6B	84.0 (77.0; 89.6)	87.1 (80.8; 91.9)	84.7 (78.1; 90.0)	0.69 (−9.40; **10.99**)	−2.38 (−12.02; 7.22)
7F	99.4 (96.4; 100)	100 (97.7; 100)	100 (97.8; 100)	0.65 (−2.70; 4.71)	0.00 (−3.34; 3.48)
9V	99.3 (96.2; 100)	100 (97.6; 100)	98.7 (95.5; 99.8)	−0.58 (−5.05; 3.82)	−1.27 (−5.66; 2.32)
14	100 (97.5; 100)	99.4 (96.4; 100)	99.4 (96.5; 100)	−0.65 (−4.68; 3.15)	0.00 (−4.08; 4.12)
18C	99.3 (96.2; 100)	99.4 (96.4; 100)	98.7 (95.5; 99.8)	−0.58 (−5.04; 3.85)	−0.62 (−5.08; 3.54)
19F	100 (97.5; 100)	98.7 (95.4; 99.8)	99.4 (96.5; 100)	−0.63 (−4.60; 3.14)	0.67 (−3.40; 5.20)
23F	91.9 (86.3; 95.7)	89.2 (83.3; 93.6)	92.0 (86.7; 95.7)	0.08 (−7.66; 8.10)	2.73 (−5.30; **11.04**)
Vaccine-related serotypes					
6A	44.2 (36.0; 52.6)	47.4 (39.2; 55.6)	43.3 (35.4; 51.4)	NA	NA
19A	53.1 (44.6; 61.4)	52.0 (43.7; 60.1)	40.1 (32.4; 48.2)	NA	NA

Antibody GMCs

	Antibody GMC (95% CI)			Antibody GMC ratio	
Serotype	IIBU N = 154	DIBU N = 158	NIBU N = 164	IIBU / NIBU 99.8% CI (LL; UL)	DIBU / NIBU 99.8% CI (LL; UL)
Vaccine serotypes (μg/mL)					
1	1.82 (1.59; 2.09)	1.71 (1.49; 1.95)	1.90 (1.67; 2.17)	0.96 (0.71; 1.29)	0.90 (0.67; 1.21)
4	2.25 (1.97; 2.57)	2.21 (1.95; 2.51)	2.21 (1.96; 2.50)	1.02 (0.77; 1.35)	1.00 (0.76; 1.32)
5	2.93 (2.58; 3.33)	2.39 (2.13; 2.69)	2.77 (2.44; 3.15)	1.06 (0.80; 1.41)	0.86 (0.66; 1.14)
6B	0.67 (0.55; 0.81)	0.76 (0.63; 0.92)	0.60 (0.49; 0.72)	1.12 (0.72; 1.74)	1.28 (0.83; 1.97)
7F	2.87 (2.52; 3.27)	2.83 (2.52; 3.17)	2.77 (2.49; 3.09)	1.04 (0.79; 1.35)	1.02 (0.80; 1.31)
9V	2.10 (1.81; 2.42)	2.01 (1.79; 2.27)	2.18 (1.91; 2.50)	0.96 (0.70; 1.31)	0.92 (0.69; 1.22)
14	4.76 (4.10; 5.51)	4.52 (3.91; 5.21)	4.77 (4.08; 5.58)	1.00 (0.71; 1.40)	0.95 (0.68; 1.32)
18C	3.85 (3.23; 4.60)	3.80 (3.24; 4.46)	4.34 (3.65; 5.15)	0.89 (0.60; 1.31)	0.88 (0.60; 1.27)
19F	6.11 (5.26; 7.10)	5.04 (4.35; 5.86)	4.96 (4.22; 5.83)	1.23 (0.87; 1.75)	1.02 (0.72; 1.44)
23F	1.04 (0.86; 1.26)	0.92 (0.76; 1.11)	1.07 (0.91; 1.26)	0.97 (0.66; 1.44)	0.86 (0.58; 1.27)
Vaccine-related serotypes (μg/mL)					
6A	0.17 (0.14; 0.21)	0.18 (0.15; 0.23)	0.15 (0.12; 0.19)	NA	NA
19A	0.23 (0.18; 0.28)	0.20 (0.16; 0.25)	0.16 (0.13; 0.19)	NA	NA
Protein D (EL.U/mL)					
	1461.28 (1267.4; 1684.8)	1353.13 (1191.3; 1537.0)	1557.75 (1355.4; 1790.3)	0.94 (0.69; 1.28)	0.87 (0.64; 1.17)

Footnote: PHiD-CV and DTPa-(HBV)-IPV/Hib at 3, 4, and 5 months of age, with the following prophylactic antipyretic regimen: IIBU, immediate ibuprofen; DIBU, delayed ibuprofen; NIBU, no ibuprofen; N = maximum number of children with available results; LL, lower limit; UL, upper limit; CI, confidence interval; 98.25% CI, standardized asymptotic confidence interval; GMC, geometric mean antibody concentration; %, percentage of participants with anti-pneumococcal serotype-specific antibody concentrations ≥ 0.2 μg/mL; NA, not available; ATP, according-to-protocol. A statistically significant difference was defined as an UL ≥10% for the 98.25% CI of the difference between groups, or an UL <1 for the 99.8% CI of the GMC ratios (**bold**).

Table 2. Exploratory analysis: serotype-specific pneumococcal and protein D antibody responses with pairwise group comparisons for the paracetamol groups, one month post-dose three (ATP cohort for immunogenicity).

Proportion of children with antibody concentrations ≥ 0.2 μg/mL					
	% ≥ 0.2 μg/mL (95% CI)			Difference in % ≥ 0.2 μg/mL	
Serotype	IPARA N = 55	DPARA N = 55	NPARA N = 56	NPARA minus IPARA 95% CI (LL; UL)	NPARA minus DPARA 95% CI (LL; UL)
Vaccine serotypes					
1	96.3 (87.3; 99.5)	98.0 (89.6; 100)	100 (93.5; 100)	3.70 (−3.01; 12.59)	1.96 (−4.69; 10.37)
4	96.4 (87.5; 99.6)	100 (93.0; 100)	100 (93.6; 100)	3.64 (−2.96; 12.38)	0.00 (−6.48; 7.07)
5	100 (93.3; 100)	100 (92.9; 100)	100 (93.4; 100)	0.00 (−6.70; 6.82)	0.00 (−6.70; 7.20)
6B	79.2 (65.9; 89.2)	72.5 (58.3; 84.1)	87.3 (75.5; 94.7)	8.03 (−6.35; 22.68)	14.72 (−0.55; 30.18)
7F	100 (93.5; 100)	100 (93.5; 100)	100 (93.6; 100)	0.00 (−6.47; 6.58)	0.00 (−6.47; 6.58)
9V	100 (93.3; 100)	100 (92.9; 100)	98.1 (90.1; 100)	−1.85 (−9.83; 5.03)	−1.85 (−9.83; 5.41)
14	100 (93.3; 100)	100 (92.9; 100)	100 (93.3; 100)	0.00 (−6.82; 6.82)	0.00 (−6.82; 7.20)
18C	98.1 (89.9; 100)	100 (92.9; 100)	100 (93.4; 100)	1.89 (−4.88; 10.00)	0.00 (−6.70; 7.20)
19F	100 (93.3; 100)	100 (92.9; 100)	100 (93.4; 100)	0.00 (−6.70; 6.82)	0.00 (−6.70; 7.20)
23F	87.0 (75.1; 94.6)	81.1 (68.0; 90.6)	90.9 (80.0; 97.0)	3.87 (−8.61; 16.76)	9.78 (−3.55; 23.71)
Vaccine-related serotypes					
6A	35.8 (23.1; 50.2)	30.0 (17.9; 44.6)	49.1 (35.1; 63.2)	NA	NA
19A	41.5 (28.1; 55.9)	50.0 (35.5; 64.5)	56.6 (42.3; 70.2)	NA	NA

Antibody GMCs					
	Antibody GMC (95% CI)			Antibody GMC ratio	
Serotype	IPARA N = 55	DPARA N = 55	NPARA N = 56	IPARA / NPARA 95% CI (LL ; UL)	DPARA / NPARA 95% CI (LL ; UL)
Vaccine serotypes (μg/mL)					
1	1.32 (1.04; 1.67)	1.38 (1.09; 1.74)	1.95 (1.64; 2.32)	0.68 (0.51; **0.90**)	0.71 (0.53; **0.94**)
4	1.57 (1.21; 2.04)	1.95 (1.63; 2.32)	2.59 (2.07; 3.24)	0.61 (0.43; **0.85**)	0.75 (0.56; 1.00)
5	1.95 (1.53; 2.48)	2.36 (1.89; 2.94)	3.05 (2.53; 3.68)	0.64 (0.47; **0.86**)	0.77 (0.58; 1.03)
6B	0.49 (0.34; 0.69)	0.42 (0.28; 0.62)	0.72 (0.51; 1.02)	0.67 (0.41; 1.09)	0.58 (0.35; **0.97**)
7F	2.18 (1.75; 2.70)	2.45 (2.01; 2.99)	2.95 (2.37; 3.69)	0.74 (0.54; 1.00)	0.83 (0.62; 1.11)
9V	1.67 (1.30; 2.13)	1.82 (1.48; 2.23)	2.40 (1.87; 3.10)	0.69 (0.49; **0.98**)	0.76 (0.55; 1.05)
14	3.44 (2.55; 4.62)	4.12 (3.21; 5.29)	5.17 (4.20; 6.36)	0.66 (0.46; **0.95**)	0.80 (0.58; 1.10)
18C	3.08 (2.29; 4.15)	4.08 (3.15; 5.29)	4.96 (3.75; 6.55)	0.62 (0.42; **0.93**)	0.82 (0.57; 1.20)
19F	4.95 (3.74; 6.54)	5.20 (3.94; 6.85)	6.98 (5.48; 8.88)	0.71 (0.49; 1.02)	0.75 (0.52; 1.07)
23F	0.77 (0.54; 1.09)	0.74 (0.51; 1.08)	1.00 (0.73; 1.36)	0.77 (0.48; 1.22)	0.74 (0.46; 1.20)
Vaccine-related serotypes (μg/mL)					
6A	0.11 (0.08; 0.16)	0.12 (0.08; 0.17)	0.19 (0.13; 0.27)	NA	NA
19A	0.15 (0.11; 0.22)	0.17 (0.12; 0.25)	0.25 (0.17; 0.36)	NA	NA
Protein D (EL.U/mL)					
	1109.64 (876.9; 1404.1)	1348.55 (1048.2; 1734.9)	1667.91 (1401.9; 1984.4)	0.67 (0.50; **0.89**)	0.81 (0.60; 1.09)

Footnote: PHiD-CV and DTPa-(HBV)-IPV/Hib at 3, 4, and 5 months of age, with the following prophylactic antipyretic regimen: IPARA, immediate paracetamol; DPARA, delayed paracetamol; NPARA, no paracetamol; N = maximum number of children with available results; LL, lower limit; UL, upper limit; 95% CI, standardized asymptotic confidence interval; GMC, geometric mean antibody concentration; %, percentage of participants with anti-pneumococcal serotype-specific antibody concentrations ≥ 0.2 μg/mL; NA, not available; ATP, according-to-protocol. The exclusion of 0 from the 95% CI of difference between groups, and the exclusion of 1 from the 95% CI of antibody GMC ratios were used to highlight potential group differences (**bold**).

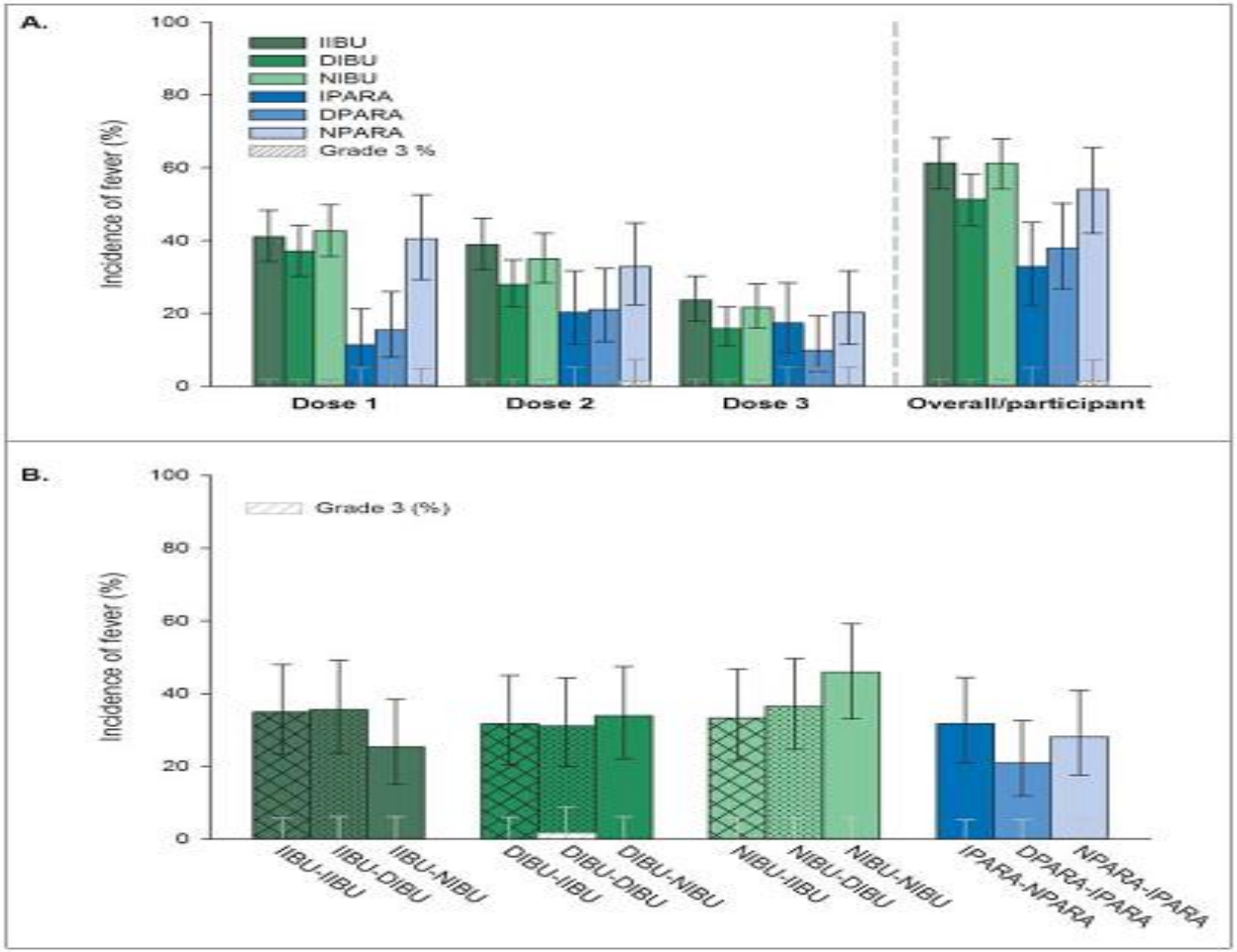


Figure 2. Incidence of fever post-primary (A) and post-booster (B) vaccination (TVC).

Concluziile studiului

- **Ibuprofen:** administrarea **nu** are nici un impact asupra imunogenicității vaccinului PCV 10 valent
- **Paracetamol**: pare a avea același tip de comportament pentru primele vaccinări, în ceea ce privește seroprotecția și seroprevalența; pentru rapel se constată un trend discret descrescător, fără a avea un impact major asupra seroprotecției și seroprevalenței vaccinale
- → ***nu este necesar să administrăm nici un antitermic postvaccinal***.

Evoluție și realizări profesionale

Arii de interes științific în legătură cu studiile infecțiilor la copil

- **Cercetări legate de infecția gripală, vaccinare și politici de vaccinare anti gripală**
- **Patologia determinată de Stafilococ la copii**
- **Rezistența la antibiotice în cadrul infecțiilor de tract urinar**
- **Markeri de inflamație în patologia oncologică**
- **Patologia digestivă și implicațiile pentru practica curentă**
- **Terapiile imuno-modulatoare la copii**

Cercetarea legată de infecția gripală, vaccinare și politici de vaccinare anti gripală

ORIGINAL RESEARCH

Influenza vaccination: key facts for general practitioners in Europe—a synthesis by European experts based on national guidelines and best practices in the United Kingdom and the Netherlands

George Kassianos[1], Patricia Blank[2], Oana Falup-Pecurariu[3], Ernest Kuchar[4], Jan Kyncl[5,6], Raul Ortiz De Lejarazu[7], Aneta Nitsch-Osuch[8], Gerrit A van Essen[9]

Drugs Context. 2016 Aug 3;5:212293

- trecere în revistă a principalelor categorii de pacienți care trebuiau să fie vaccinate, cu atenție deosebită asupra principalelor grupe de risc
- Prezentarea metodelor de notificare pentru vaccinare în cadrul populației; păstrarea evidențelor celor vaccinați; transportul și stocarea vaccinului

Table 1. Types of seasonal influenza vaccine available in the UK (2015–2016 season).

Vaccine type	Number of strains	Brand name	Route of administration	Age range[a]					
				≥6 months	2–17 years[a]	≥3 years	≥5 years	≥18 years	≥60 years
Inactivated influenza vaccine	Trivalent	Agrippal	Intramuscular	√	√	√	√	√	√
		Influvac	Intramuscular	√	√	√	√	√	√
		Imuvac	Intramuscular	√	√	√	√	√	√
		Inactivated influenza vaccine (split virion) BP	Intramuscular	√	√	√	√	√	√
		Optaflu	Intramuscular	–	–	–	–	√	√
		Enzira	Intramuscular	–	–		√	√	√
		Intanza	Intradermal	–	–	–	–	–	√
Inactivated influenza vaccine	Quadrivalent	Fluarix Tetra	Intramuscular			√	√	√	√
Live attenuated influenza vaccine	Quadrivalent	Fluenz Tetra	Intranasal	–	√		–	–	–

[a]Age range 2-17 years, inclusive.
Note: Product availability can vary between countries: each country will need to check local authority recommendations and indications for the vaccines that are available to them and adapt this table according to the manufacturer's SmPC.

Drugs Context. 2016 Aug 3;5:212293

Motors of influenza vaccination uptake and vaccination advocacy in healthcare workers: A comparative study in six European countries ☆

George Kassianos [a], Ernest Kuchar [b], Aneta Nitsch-Osuch [b], Jan Kyncl [c], Andrey Galev [d], Isme Humolli [e], Oana Falup-Pecurariu [f], Angus Thomson [g], Christina Klein [g], Gaëlle Vallée-Tourangeau [h,*]

Vaccine. 2018 Oct 22;36(44):6546-6552

Chestionar → 6 țări, 2541 participanți

Table 1
Demographic characteristics of the samples.

Variable	Country						Total
	BGR	CZE	GBR	POL	ROU	XKX	
N	485	518	80	772	155	466	2476
Age							
M	49.38	50.98	49.81	48.63	35.84	45.5	47.92
SD	7.47	12.16	9.78	11.53	9.39	9.2	10.98
Minimum	23	18	20	23	19	22	18
Maximum	70	81	67	83	62	63	83
18–29 years (%)	3.30	6.58	5.56	6.74	37.01	4.29	7.42
30–49 years (%)	50.93	35.78	38.89	52.20	55.19	64.59	50.65
50–65 years (%)	45.57	48.94	54.17	33.68	7.79	31.12	37.71
Over 65 years (%)	0.21	8.70	1.39	7.38	0.00	0.00	4.22
Gender							
Female (*n*)	393	382	77	516	117	304	1789
Male (*n*)	92	136	2	256	37	162	685
Missing	0	0	1	0	1	0	2
Profession							
General practitioner	478	451	1	675	0	174	1779
Specialist physician	0	8	0	0	49	38	95
Nurse	2	13	76	84	73	224	472
Other	5	46	3	13	33	30	130

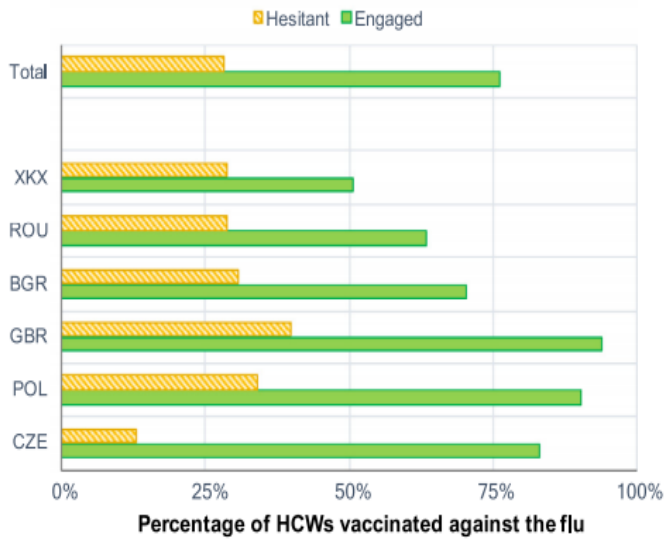
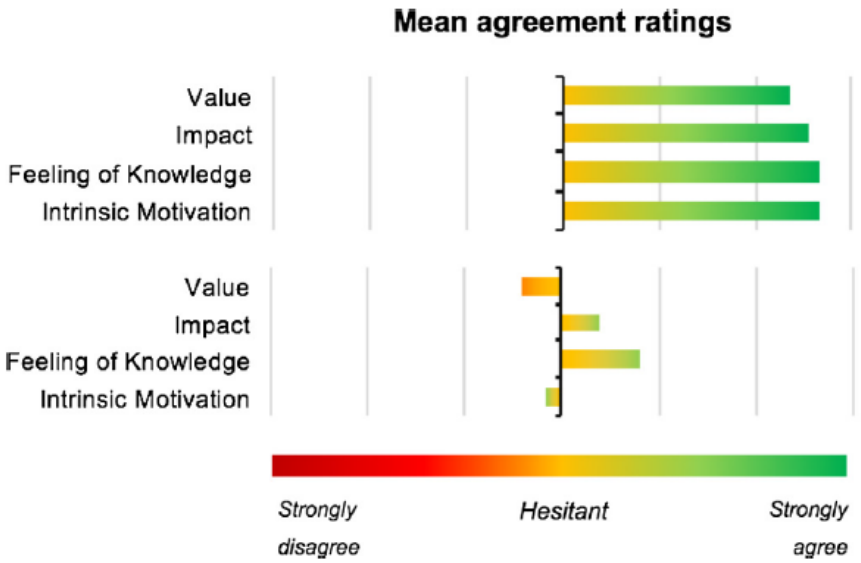
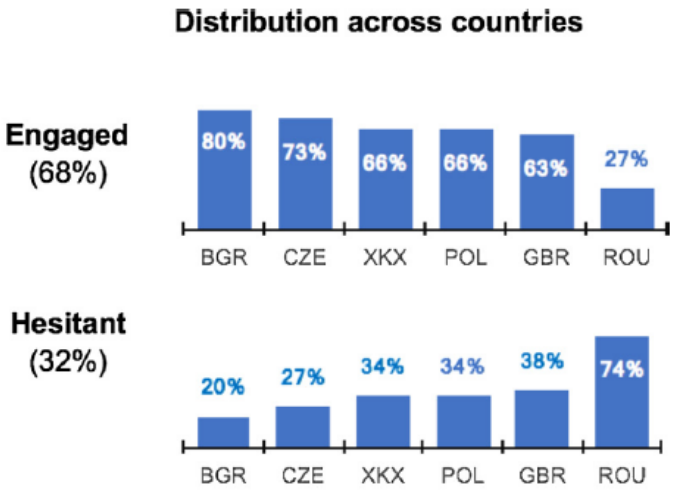


Table 2
Descriptive statistics, correlations, and coefficient alpha for MoVac-flu and MovAd sentiments.

Sentiments	M	SD	Skewness	Kurtosis	alpha	Correlations					
						1	2	3	3.2	4.1	4.2
MoVac-flu sentiments											
1. Importance	5.45	1.74	−1.09	0.31	0.90						
2. Impact	5.86	1.42	−1.51	2.23	0.87	0.81***					
3. Feeling of Knowledge	6.06	1.32	−1.74	0.68	0.86[b]	0.72***	0.79***				
3.2 Depth of Knowledge[c]	5.61	2.11	−1.25	0.30		0.02	0.06**	0.12***			
4. Autonomy					0.16						
4.1. Choice[a]	6.23	1.48	−1.64	1.45	0.08[d]	0.19***	0.23***	0.29***	0.09***		
4.2. Extrinsic Pressure	3.07	2.27	0.60	−1.19	0.33[d]	0.05*	−0.04*	−0.01	−0.24***	0.02	
4.3. Intrinsic Motivation	5.74	1.96	−1.46	0.74	−0.07[d]	0.048***	0.53***	0.44***	0.05*	0.21***	−0.04*
MovAd sentiments											
1. Importance	5.87	1.30	−1.32	1.30	0.83						
2. Impact	5.67	1.20	−1.04	1.02	0.84	0.67***					
3. Feeling of Knowledge	5.85	1.25	−1.38	1.73	0.90	0.62***	0.54***				
4. Autonomy					0.31						
4.1. Choice	5.17	1.96	−0.82	−0.52	0.09[d]	0.25***	0.17***	0.21***			
4.2. Extrinsic Pressure	3.16	2.16	0.55	−1.15	0.27[d]	0.07***	0.07***	0.03		0.18***	
4.3. Obligation	5.85	1.55	−1.44	1.37	0.30[d]	0.66***	0.51***	0.56***		0.16***	0.05*

Vaccine. 2018 Oct 22;36(44):6546-6552





Vaccine. 2018 Oct 22;36(44):6546-6552

Concluziile studiului

- personalul sanitar este mai înclinat să răspundă la chestionare anonime considerând vaccinarea o decizie informată, conform normativelor psihologice recente
- În țara noastră, marea majoritate a respondenților sunt ezitanți în promovarea vaccinării antigripale → probleme importante de abordare ale acestei probleme.
- Recomandarea de vaccinare venită din partea unui cadru medical este cel mai puternic motor pentru vaccinare

Vaccination of healthcare personnel in Europe: Update to current policies

Helena C. Maltezou [a,*], Elisabeth Botelho-Nevers [b], Arne B. Brantsæter [c], Rose-Marie Carlsson [d], Ulrich Heininger [e], Judith M. Hübschen [f], Kamilla S. Josefsdottir [g], George Kassianos [h], Jan Kyncl [i,v], Caterina Ledda [k], Snežana Medić [l,m], Aneta Nitsch-Osuch [n], Raul Ortiz de Lejarazu [o], Maria Theodoridou [p], Pierre Van Damme [q], Gerrit A. van Essen [r], Sabine Wicker [s], Ursula Wiedermann [t], Gregory A. Poland [u], Vaccination Policies for HCP in Europe Study Group [1]

Vaccine. 2019 Dec 10;37(52):7576-7584

Netherlands), Arne B. Brantsæter (Oslo University Hospital, Oslo, Norway), Aneta Nitsch-Osuch (Medical University of Warsaw, Warsaw, Poland), Silva Graça (National Health Institute, Lisbon, Portugal), Oana Falup-Pecurariu (Transilvania University Faculty of Medicine, Brasov, Romania), Irina Mikheeva (Central Research Institute for Epidemiology, Moscow, Russia), Snežana Medić (University of Novi Sad, Novi Sad, Serbia), Dagmar Kollárová (Slo-

Table 2
Mandatory vaccinations for HCP in Europe, 2018.

Influenza: Serbia (for specific groups of HCP)
Measles-Mumps-Rubella: Albania, Croatia, Portugal, Serbia (for specific groups of HCP), Slovenia
Tetanus: Croatia, France, Portugal, Slovenia, Ukraine
Diphtheria; Albania, France, Portugal, Slovenia, Ukraine
Pertussis: Albania, Croatia, Portugal, Slovenia
Poliomyelitis: Albania, Croatia, France, Slovenia
Hepatitis A: Slovakia (for specific groups of HCP)
Hepatitis B: Albania, Belgium, Czech Republic, France, Moldova, Poland, Portugal, Romania, Serbia (for specific groups of HCP), Slovenia
Meningococcus A, C, W, Y: Serbia (for specific groups)
Tuberculosis: Croatia, France

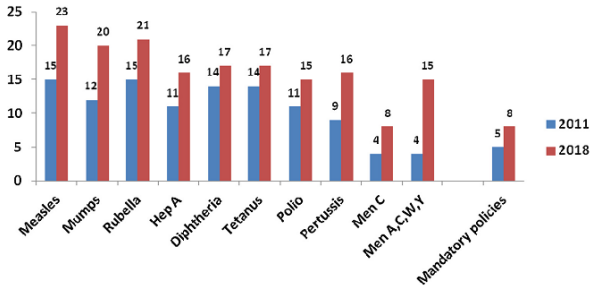


Fig. 1. Vaccination policies for HCP in Europe in 2011 compared to 2018*. HCPs: healthcare personnel; Hep A: hepatitis A; Polio: poliomyelitis; Men C: meningococcus group C; meningococcus groups A, C, W, Y. *Concerns 30 countries that participated in the 2011 survey [10].

Table 1
National vaccination policies for healthcare personnel (HCP) in Europe by vaccine and by country, 2018.

Country	Influenza	Measles	Mumps	Rubella	Varicella	Hep A	Hep B	Diphtheria	Tetanus	Pertussis	Polio	Men B	Men C	Men A, C, W, Y	BCG	Pneumo	HPV
Albania	R	M hM	M hM	M hM	nMnR	nMnR	M hM	M hM	R	M hM	M hM	nMnR	nMnR	R	R	nMnR	nMnR
Austria	R	R	R	R	R	spR	R	R	R	R	R	spR	spR	spR	nMnR	spR	nMnR
Belgium	R	R	R	R	spR	spR	M	R	R	R	R	nMnR	nMnR	nMnR	nMnR	nMnR	spR
Bulgaria	R	nMnR	nMnR	nMnR	nMnR	spR	R	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR
Croatia	R	M	M	M	nMnR	nMnR	hM	nMnR	M	M	M	nMnR	nMnR	nMnR	M	nMnR	nMnR
Cyprus	R	R	R	R	nMnR	nMnR	R	R	R	nMnR	R	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR
Czech Republic	R	sphM	nMnR	nMnR	nMnR	sphM	M	nMnR	nMnR	nMnR	nMnR	spR	nMnR	spR	nMnR	nMnR	nMnR
Denmark	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	spR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR
Estonia	R	spR	spR	spR	spR	nMnR	spR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR
Finland	spR	R	R	R	R	spR	spR	nMnR	nMnR	spR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR
France	R	R	R	R	R	spR	M	M	M	R	M	nMnR	nMnR	nMnR	M	nMnR	nMnR
Germany	R	R	spR	spR	R	R	R	nMnR	nMnR	R	spR	spR	spR	spR	nMnR	nMnR	nMnR
Greece	R	R	R	R	spR	nMnR	R	nMnR	nMnR	nMnR	nMnR	spR	nMnR	spR	nMnR	nMnR	nMnR
Hungary	R	nMnR	nMnR	nMnR	spR	nMnR	hM	nMnR	nMnR	nMnR	nMnR	spR	spR	spR	nMnR	nMnR	nMnR
Iceland	R	R	R	R	nMnR	nMnR	R	R	R	R	R	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR
Ireland	R	R	R	R	R	spR	R	nMpR	spR	spR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR
Italy	R	R	R	R	R	spR	R	R	R	R	nMnR	spR	spR	spR	R	nMnR	nMnR
Latvia	R	nMnR	nMnR	nMnR	nMnR	nMnR	spR	R	R	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR
Lithuania	R	R	R	R	R	R	R	R	R	nMnR	spR	nMnR	nMnR	spR	nMnR	nMnR	nMnR
Luxemburg	R	nMnR	nMnR	nMnR	nMnR	nMnR	R	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR
Malta	R	R	R	R	spR	spR	R sphM	R	R	R	R	nMnR	nMnR	spR	nMnR	nMnR	nMnR
Moldova	R	nMnR	nMnR	nMnR	nMnR	spR	M	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR
Netherlands	R	nMnR	nMnR	nMnR	nMnR	nMnR	sphM	nMnR	nMnR	spR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR
Norway	spR	spR	spR	spR	spR	nMnR	spR	spR	spR	spR	spR	spR	spR	spR	spR	nMnR	nMnR
Poland	R	spR	spR	spR	nMnR	nMnR	M hM	nMnR	nMnR	R	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR
Portugal	R	M	M	M	nMnR	nMnR	M	M	M	spM	R	nMnR	nMnR	spR	nMnR	nMnR	nMnR
Romania	R	R	R	R	R	nMnR	M hM	R	R	R	R	spR	spR	spR	nMnR	spR	nMnR
Russia	R	R hM	nMnR	spR hM	nMnR	sphM	R hM	R hM	R hM	nMnR	sphM	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR
Serbia	spM	spM	spM	spM	nMnR	nMnR	spM	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	spM	nMnR	nMnR	nMnR
Slovakia	spR	spR	nMnR	nMnR	nMnR	spR spM	sphM	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	sphM	nMnR	nMnR
Slovenia	R	M	M	M	R	nMnR	M	M	M	spM	M	R	R	R	nMnR	nMnR	nMnR
Spain	R	R	R	R	R	spR	R	R	R	spR	spR	spR	spR	spR	nMnR	spR	nMnR
Sweden	spR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	spR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR
Switzerland	R	R	R	R	R	spR	R	R	R	R	R	nMnR	nMnR	spR	nMnR	nMnR	nMnR
Ukraine	R	R	nMnR	nMnR	R	nMnR	R	M	M	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR	nMnR
United Kingdom	R	spR	spR	spR	spR	spR	spR	spR	spR	nMnR	spR	nMnR	nMnR	spR	spR	nMnR	nMnR

hM: mandatory to get hired; M: mandatory; nMnR: not mandatory-not recommended; R: recommended; sphM: mandatory to get hired for specific HCP groups or settings; spM: mandatory for specific HCP groups or healthcare settings; spR: recommended for specific HCP groups or healthcare settings; Hep A: Hepatitis A; Hep B: Hepatitis B; Polio: Poliomyelitis; Men: Meningococcus; BCG: Bacillus Calmette-Guérin vaccine; Pneumo: Pneumococcus; HPV: human papilloma-virus.

Vaccine. 2019 Dec 10;37(52):7576-7584

Concluziile studiului

În România un singur vaccin este obligatoriu pentru personalul medical (hepatita B)

- număr mare de îmbolnăviri în cadrul personalului medical în sezoanele de toamnă /iarnă cu virusul gripal.

Discrepanțele care există între țările europene legat de vaccinare sunt determinate și de absența unor recomandări ferme de vaccinare

Patologia determinată de Stafilococ la copii

Clinical Microbiology and Infection 22 (2016) 643.e1–643.e6

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Original article

Factors associated with severity in invasive community-acquired *Staphylococcus aureus* infections in children: a prospective European multicentre study

M. Gijón, M. Bellusci, B. Petraitiene, A. Noguera-Julian, V. Zilinskaite, P. Sanchez Moreno, J. Saavedra-Lozano, D. Glikman, M. Daskalaki, P. Kaiser-Labusch, O. Falup-Pecurariu, C. Montagnani, L. Prieto, A. Gené, G. Trumpulyte, I. Kulecnikova, J.A. Lepe, E. Cercenado, R. Kudinsky, A. Makri, H.I. Huppertz, L. Bleotu, P. Cocchi, P. García-Hierro, A. Vitkauskiene, C. Fortuny, V. Zukovskaja, O. Neth, M. Santos, A. Rokney, M. Petra, R. Lixandru, L. Galli, S. Guillén, F. Chaves, P. Rojo Conejo*

Pediatric Infectious Diseases, Hospital Universitario 12 de Octubre, Madrid, Spain

ESPID Clinical Practice Guideline

Bone and Joint Infections

Jesús Saavedra-Lozano, MD, PhD,† Oana Falup-Pecurariu, MD, PhD,‡ Saul N. Faust, MB BS, MRCPCH, PhD,§ Hermann Girschick, MD,¶‖ Nico Hartwig, MD, PhD,** Sheldon Kaplan, MD,††‡‡ Mathie Lorrot, MD, PhD,§§ Elpis Mantadakis, MD,¶¶ Heikki Peltola, MD, DTM& H,‖‖ Pablo Rojo, MD, PhD,*** Theoklis Zaoutis, MD, MSCE,††† and Anton LeMair, MD‡‡‡*

- Infecțiile osteo-articulare la copii sunt relativ rare; pot să determine sechelaritate pe termen lung
- În România există un singur studiu publicat în revistă cotată ISI legat de această patologie, dar care este grevat de limitare, datorită faptului că vârsta copilăriei este amestecată cu cea a adultului

→Ghid de bună practică european ce va demonstra câteva elemente importante

TABLE 4. Diagnostic Options for Childhood BJI

Type	Tests	Notes/Remarks
Laboratory tests[33–35]	CRP	– Easy, inexpensive and rapid test in diagnostics and follow-up – High sensitivity for diagnosis of BJI[34,36] – Normal rate is reached quickly (in 3–8 d) during recovery of BJI[29]
	ESR	– This test may be more difficult in children: larger sample blood volume needed and possible laboratory errors because of handling problems – Some studies have shown high sensitivity.[5] Sensitivity may be higher with measurement of both CRP and ESR. – Low specificity for diagnosis of BJI – Normal rate is reached a long time (2–3 wk or more) during recovery of BJI[29]
	CBC	– Useful in conjunction with ESR and CRP – White blood cell, hemoglobin and platelet count may still be very useful for differential diagnosis of BJI (eg, leukemia)
Imaging	Radiograph imaging	– Always at baseline (often normal at baseline but useful for later reimaging comparison and to rule out other diseases) – Plain radiography often misses joint effusion, especially in the hip joint – If clinical presentation is not severe and clinical outcome on therapy is appropriate, an additional imaging study may not always be necessary
	US sonography	– Identify joint effusion in septic arthritis (very sensitive) – Subperiostic abscess (low sensitivity for OM but may be very useful) – Doppler may detect elevated blood flow in OM and help in early diagnosis[37]
	Scintigraphy/ Tc bone scan	– In several European countries, scintigraphy has become unpopular because of high radiation dose* – In others, it is still frequently used in the diagnosis of OM – It may be useful in ill-defined locations or if multiple foci are suspected
	MRI	– MRI is expensive and not always available – Best test for OM, especially if symptoms are localized – Not always needed in every child, especially if the diagnosis is clear and the child improves in a short period (2–3 d) – Provides excellent definition of soft tissues and bone marrow – Whole body MRI for multifocal processes has proven very useful,[38] for example, in cases of severe CA-MRSA
	CT scan	– Reserved for diagnostic dilemma in most centers, although local variation exists even within countries—much higher radiation than any other imaging test* – It may be more frequently used in centers where MRI is not readily available
Microbiology	Blood culture	– Should always be obtained despite a possible low yield (10%–40%) – In neonates and young infants with OM, blood culture may be positive on suspected sepsis without local signs – The presence of *Staphylococcus aureus* in the blood should prompt a consideration of occult BJI
	Synovial fluid/bone sample: Gram staining, culture	– If sample taken, obtain it before initiation of antibiotic treatment (especially for synovial fluid) – Bone sample not always required; to be considered if subperiostal pus is present or infection is not improving as expected – Important also for the diagnosis of noninfectious processes – Drainage, for example, of purulent fluid or abscess, may also serve as an important form of therapy
	Bacterial PCR (when available)	– Including molecular detection of *Kingella kingae*, *S. aureus* or others by using eubacterial ribosomal RNA amplification in tissue sample or synovial fluid. It may significantly increase the yield of a microorganism in SA, especially in previous use of antibiotics. Specific primers may be more sensitive.[24]

PCT has not been proven to be of value for the diagnosis of BJI in children because of its low sensitivity[39–41] and the wide availability of the existing tests CRP and ESR. In some settings (eg, high rates of MRSA), initial bone puncture for diagnosis may be appropriate to better adjust therapy. This procedure may be performed under CT direction.[42]

*Radiation dose.[43,44] Conventional radiograph: thorax in 1 dimension postanterior 0.02 mSv; thorax in 2 dimensions 0.1–0.2 mSv; knee in 2 dimensions 0.001–0.01 mSv, CT scan: thorax 3–5 mSv; abdomen 5–8 mSv; extremity 4–5 mSv; spine 8–10 mSV. Bone scintigram using Tc-99m: 3–6 mSv (same as 200–750 chest radiographs).

CBC indicates complete blood count; CT, computerized tomography; ESR, erythrocyte sedimentation rate; PCT, procalcitonin.

Pediatr Infect Dis J. 2017 Aug;36(8):788-799

Pediatr Infect Dis J. 2017 Aug; 36(8):788-799

TABLE 5. Principle Scheme for Management of Simple or Uncomplicated and Complex BJI (See Text for Details)

Management Components	Suspected Diagnosis	
	Uncomplicated OM or SA	Complex* OM or SA
Hospitalization	Yes	Yes
Blood tests	CBC, CRP, ESR	
Bacteriology	Blood culture—Generally, 4 mL minimum, 2 mL for neonates[51] Culture of any possible material, especially joint fluid; consider bone sample in certain circumstances (it may be crucial in complex BJI); PCR from synovial fluid, abscesses or tissue when feasible	
Imaging	OM—Always plain radiograph. Consider MRI SA—US. MRI to document suspected OM in SA and perifocal disease	OM—Always plain radiograph. MRI, US SA—US, MRI, consider ^{99}Tc bone scan if no MRI is available
Surgery	Avoid if possible—Indications include need for pus or effusion drainage, bone destruction Always arthrocentesis/arthrotomy for SA	Consider—Indications include need for pus or effusion drainage, bone destruction or diagnostic purposes
Antibiotic treatment	See Section 7	
Monitoring	When pathogen is not known: • Switch to oral antibiotic monotherapy following local microbiologic or clinical infectious disease standards • Choose antibiotic spectrum similar to IV if initial IV response was favorable	Consider second line or additional antibiotics, especially as long as Gram-negative bacteria or MRSA are not ruled out
Switch IV to oral treatment		
Criteria for time to switch—pathogen is unknown	Afebrile or clearly decreased temperature 24–48 hr, improved clinical condition (reduction of pain, mobility, inflammation) >24 hr and significantly decreased CRP (30%–50% of highest value)	Similar parameters but consider a minimum of 1 wk of IV therapy
Up to 3 mo old—time to switch and duration	Consider switch after 14–21 d, especially under 1 mo of age; some experts consider switching earlier →OM and SA—4–6 wk total antibiotic treatment	Consider switch after 21 d; it may be earlier in certain favorable circumstances →OM and SA—4–6 wk or longer (up to several months) oral antibiotic treatment based on individual response
3 mo old and older—time to switch and duration	Consider switch after 24–48 hr of improvement →OM—minimum 3–4 wk total →SA—minimum 2–3 wk total†	Consider 10–14 d of IV antibiotics depending on severity and outcome, but may be switched to PO earlier →OM and SA—4–6 wk or longer (up to several months) oral antibiotic treatment based on individual response and other specific characteristics
Follow-up	• CRP measurements—reliable and inexpensive in the follow-up of OM and SA. No need to repeat inflammatory markers once normalized unless new clinical findings • Long-term beta-lactam therapy may produce leukopenia, usually mild to moderate • Clinical investigation—longer follow-up: infants, physis involvement and complex disease • Radiograph, sonography or MRI may be needed • End-point therapy: Normal CRP, asymptomatic or minor symptoms‡ and after minimum length of treatment—see above. The end-point may be more difficult to determine in complex OM/SA • Orthopedic follow-up at end of course of treatment more important than PID to address any ongoing sequelae of the bone or joint infection	

Consultation and treatment should "not" be delayed while waiting for a bone scan or MRI in suspected OM. Arthrocentesis or arthrotomy should be promptly performed in suspected SA before antibiotic therapy.

*Complex disease = if any one of the following features is present: (1) significant bone destruction; (2) resistant or unusual pathogen; (3) immunocompromised patient; (4) sepsis or shock and (5) venous thrombosis or other major complications (eg, important abscess).

†Some studies showed that 10 days of treatment may be enough for noncomplicated SA.

‡Some symptoms may not be related to infection or inflammatory cause but to sequelae (eg, limping, pain, limit range of motion). Consultation with orthopedics may be considered.

CBC indicates complete blood count; ESR, erythrocyte sedimentation rate; PID, pediatric infectious disease specialist.

TABLE 6. Empirical Therapy by Age

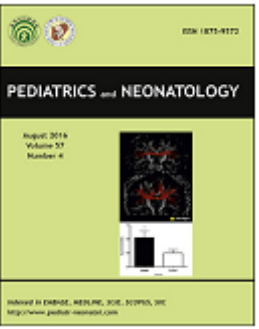
Age	Empirical IV Antibiotic Treatment*
Up to 3 mo old	Cefazolin (or ASP) + gentamicin; ASP + cefotaxime may be an alternative[8]
3 mo to 5 yr old	Cefazolin† or cefuroxime‡ Clindamycin in regions of non-*Kingella*; alternatives: amoxicillin§–clavulanate or ampicillin–sulbactam or ceftriaxone‡ or ASP¶
5 yr old and older	IV ASP or cefazolin or clindamycin (high MRSA prevalence) When risk factors present (eg, SCD), other options may be considered such as ceftriaxone (± ASP or clindamycin)

Pediatr Infect Dis J. 2017 Aug;36(8):788-799

TABLE 7. Initial Empirical Therapy and Rate of MRSA (Beyond 3 Months of Age)

Regional Rate of MRSA—Low/High at 10%–15%	Recommended Initial Empirical Therapy*
Low rate of MRSA or culture-negative infections	• First or second generation cephalosporins • Alternatives: Anti-staphylococcal penicillins or third G cephalosporins†
High rate of MRSA	• Clindamycin ± rifampin‡ ± anti-staphylococcal beta-lactam
High rate of MRSA plus severe infection without preliminary results or high-rate clindamycin resistance or in case of failure to respond to initial therapy	• Vancomycin or teicoplanin ± rifampin‡ ± clindamycin • Alternative: Daptomycin or linezolid (MRSA-IDSA guidelines)[65] • Always consider adding a beta-lactam until MRSA is confirmed • Intravenous immunoglobulin may be added where toxin-mediated systemic symptoms (ie, toxic shock syndrome) are suspected

Rezistența la antibiotice în cadrul infecțiilor de tract urinar



First UTI episode in life in infants < 1 year of age: Epidemiologic, clinical, microbiologic and disease recurrence characteristics

Oana Falup-Pecurariu [a,b], Eugene Leibovitz [c,*], Cristiana Vorovenci [a], Raluca Lixandru [a], Flavia Rochman [a], Vlad Monescu [d], Ron Leibovitz [e], Laura Bleotu [a], Cristian Falup-Pecurariu [b]

- Studiu retrospectiv
- Scop: examinarea caracteristicilor epidemiologice și microbiologice ale primelor infecții de tract urinar la sugari
- 191 sugari

Table 1 Pathogen distribution: total pathogens recovered in first UTI episode (191 patients, 217 pathogens).

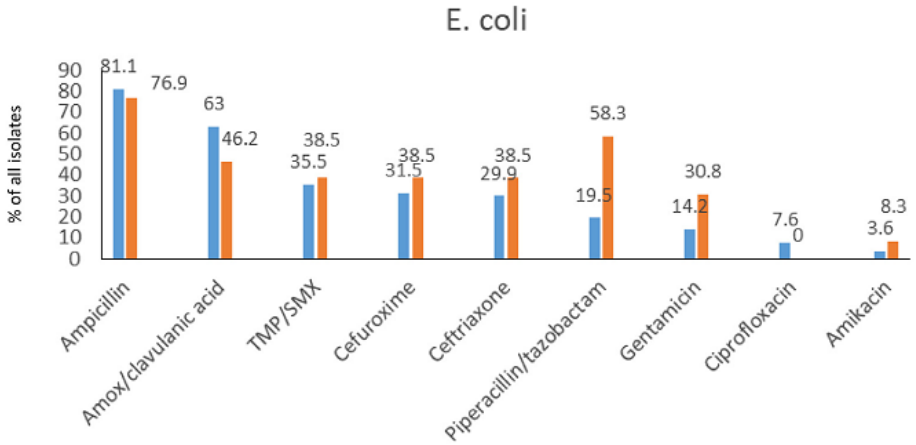
Pathogen	No. isolates (total)	%	Single pathogen	%	Two pathogens	%
Escherichia coli	127	58.5	105	63.6	22	42.3
Klebsiella spp.	53	24.4	38	23.0	15	28.9
Enterococcus spp.	16	7.4	9	5.5	7	13.5
Proteus mirabilis	6	2.8	2	1.2	4	7.7
Staphylococcus aureus	6	2.8	5	3.0	1	1.9
Enterobacter spp.	2	0.9	1	0.6	1	1.9
Pseudomonas aeruginosa	2	0.9	2	1.2	–	–
Other	5	2.3	3	1.9	2	3.8
Total	**217**		**165**		**52**	

Pediatr Neonatol. 2020 Dec;61(6):613-619

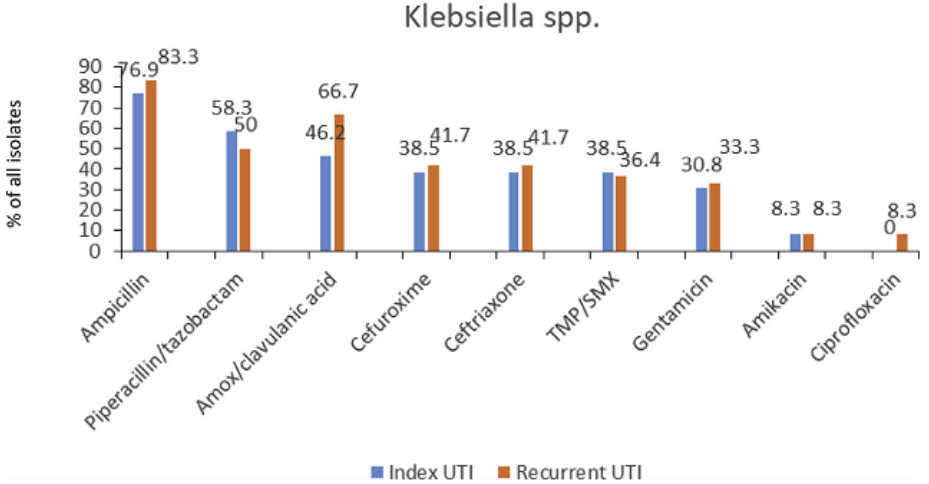
Table 2 32 recurrent UTI episodes: epidemiologic and microbiologic characteristics.

	No patients (%)
Age at initial episode (months, mean ± SD, median)	3.02 ± 2.39 (2)
Age at first recurrence (months, mean ± SD, median)	5.1 ± 2.81 (5)
Time of recurrence after index UTI episode (months)	
- 0–1 months	7 (21.9)
- 1–2 months	10 (31.3)
- 3–6 months	13 (40.6)
- 7–12 months	2 (6.2)
Gender M/F	24 (75)/8 (25)
Renal pathology (on Ultrasound at recurrence)[a]	
- Hydronephrosis[b]	5 (16.1)
- Double pyeloureteral system	1 (3.2)
- Megaureter	1 (3.2)
Uropathogens isolated (n = 32)	
- *E. coli*	13 (40.6)
- *Klebsiella* spp.	12 (37.5)
- *Enterococcus* spp.	4 (12.5)
- *Enterobacter* spp.	2 (6.3)
- *P. mirabilis*	1 (3.1)
- ESBL–producing uropathogens[c]	10 (31.3)
No. patients with normal urinalysis (dipstick)[d]	11 (39.2)
Antibiotic prophylaxis since index episode[e]	15 (50)

[a] Data available on 31 patients.
[b] Degree 2, 3 and 4 in 2, 2 and 1 patients, respectively.
[c] 5 *E. coli*, 1 *Klebsiella* spp.
[d] Data available for 28 patients.
[e] Data available for 30 patients.



Pediatr Neonatol. 2020 Dec; 61(6):613-619



Concluziile studiului

- Rezistența bacteriei *E.coli* la antibiotice s-a menținut ridicată la marea majoritate a claselor de antibiotice
- *Klebsiella* - cel de al doilea patogen ca și frecvență în infecțiile de tract urinar, s-a menținut de asemenea cu rate înalte de rezistență.

High resistance rates to 2nd and 3rd generation cephalosporins, ciprofloxacin and gentamicin of the uropathogens isolated in young infants hospitalized with first urinary tract infection

Oana Falup-Pecurariu[1,2*], Eugene Leibovitz[3], Mihaela Bucur[1], Raluca Lixandru[1], Laura Bleotu[1], Cristian Falup-Pecurariu[2]

- Studiu retrospectiv
- **Scop:** descrierea caracteristicilor infecțiilor de tract urinar la copiii spitalizați și caracterizarea distribuției uropatogenilor și a ratelor lor de rezistență antimicrobiană
- 117 copii <3 luni

Table 1. Fever and laboratory findings at admission.

Fever at admission	No. patients (%)
<38.0°C	84 (71.8 %)
38.1-39.0°C	29 (24.8 %)
>39.1°C	4 (3.4 %)
WBC/mm^3	
Mean ± SD	12.0 ± 5.1
Range	2.4-33.500
Leukocytosis>15.000	20 (17.1%)
Leukopenia <5000	2 (1.7%)
Polymorphonuclears (mean ± SD)	4.0 ± 2.9
Neutropenia<1500	5 (4.3%)
Hb ≤ 10 mg	20 (17.1%)
Platelets (mean ± SD)	438.1 ± 152.4
>150.000/mm^3	117 (100%)
CRP (mg/dl)*	
No. patients with available data=73	
Mean ± SD	3.6 ± 4.9
Range	0.19-21.65
>1 mg/dl	31 (42.5%)
Urea>40 mg (%)	5 (4.3%)
Creatinine>0.4 mg (%)	37 (31.6%)
Abnormal liver function tests (%)	30 (25.6%)

*Normal value: ≤ 1mg/dl.

Biomed Res 2017 Volume 28 Issue 20

Table 2. *Pathogen distribution: 117 cases of UTI in 117 infants aged 0-3 months.*

Pathogens	**n (%)**
- *Escherichia coli*	68 (58.1%)
- *Klebsiella* spp.	35 (29.9%)
- *Proteus* spp.	5 (4.3%)
- *Enterobacter* spp.	3 (2. 6%)
- *Pseudomonas aeruginosa*	2 (1.7%)
- *Enterococcus* spp.	2 (1.7%)
- Methicillin-Resistant *Staphylococcus aureus*	2 (1.7%)
- Total	117

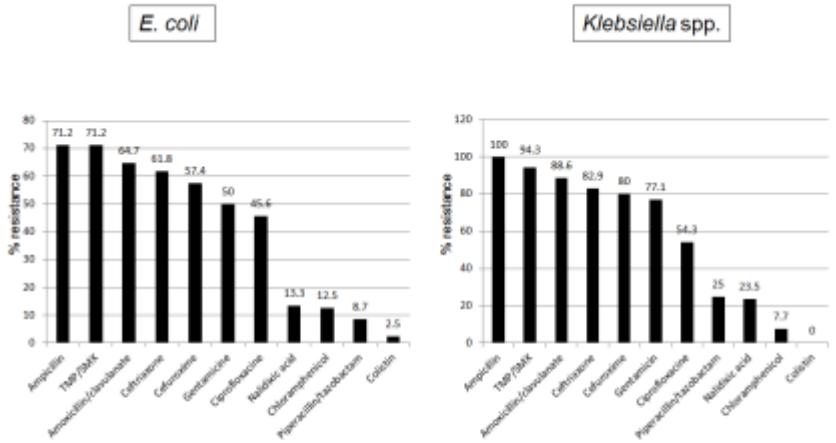


Figure 1. *Resistance percentages of E. coli and Klebsiella spp. to main antibiotic in use for the treatment of urinary tract infections in infants.*

Table 3. *Pathogen distribution according to age subgroups.*

Pathogen	0-1 months (n=44)	1-2 months (n=43)	2-3 months (n=30)	Total (N=117)
Escherichia coli	24 (54.5%)	25 (58.2%)	19 (63.3%)	68
Klebsiella spp.	13 (29.6%)	14 (32.6%)	8 (26.7%)	35
Proteus spp.	2 (4.5%)	1 (2.3%)	2 (6.7%)	5
Enterobacter spp.	2 (4.5%)	1 (2.3%)	-	3
Enterococcus spp.	1 (2.3%)	1 (2.3%)	-	2
Pseudomonas spp.	1 (2.3%)	-	1 (3.3%)	2
Non-*E. coli* gram-negative organisms	19 (43.2%)	17 (39.5%)	11 (36.7%)	47
Methicillin-resistant *Staphylococcus aureus*	1 (2.3%)	1 (2.3%)	-	2

Concluziile studiului

- S-a remarcat rezistența mare la cefalosporinele de generația a doua și a treia
  - modificarea protocoalelor locale de tratament

  - rezultat imediat, prin implementarea în cadrul secției a metodelor corecte de recoltare a urinii și prin instituirea unor scheme de tratament adaptate rezistenței locale la antibiotice.

Markeri de inflamație în patologia oncologică

Clinical and Laboratory Parameter Dynamics as Markers of Blood Stream Infections in Pediatric Oncology Patients With Fever and Neutropenia

Guy Hazan, MD, Shalom Ben-Shimol, MD,* Yariv Fruchtman, MD,† Abed Abu-Quider, MD,† Joseph Kapelushnik, MD,† Asher Moser, MD,† Oana Falup-Pecurariu, MD,‡ and David Greenberg, MD**

- **Scopul studiului** a fost de a determina asociația între parametri clinici și de laborator și bacteriemie
- Studiul a fost prospectiv, desfășurat între 2007 și 2010 în Unitatea de Oncologie Pediatrică Soroka, Beer Sheva, Israel

TABLE 1. Demographic Characteristics of Oncologic Children With Fever and Neutropenia: Comparison Between BSI and Non-BSI Episodes

		%		
	Total	**BSI (N = 38)**	**Non-BSI (N = 157)**	***P***
Age (y ± SD)	Mean	9.5 ± 5.9	8.3 ± 5.2	0.2
Sex (n [%])	Males (112 [57.5])	55.3	58.0	0.9
Ethnicity (n [%])	Jewish (99 [50.8])	55.3	49.7	0.7
Maximum temperature (range) (C°)	Median	39.0 (38.2-40)	38.7 (38-40)	0.08
Tumor (n [%])	Solid (75 [38.5])	31.6	40.1	0.3
	Nonsolid (120 [61.5])	68.4	59.9	
Stage (n [%])	Induction (75 [38.5])	32.4	40.4	0.5*
	Maintenance therapy (110 [56.4])	64.9	54.5	
	Relapse (10 [5])	2.7	5.1	

**P*-value related to all 3 groups in comparison.
BSI indicates blood stream infection.

TABLE 2. Laboratory Parameters on Admission of Oncologic Children With Fever and Neutropenia: Comparison Between BSI and Non-BSI Episodes

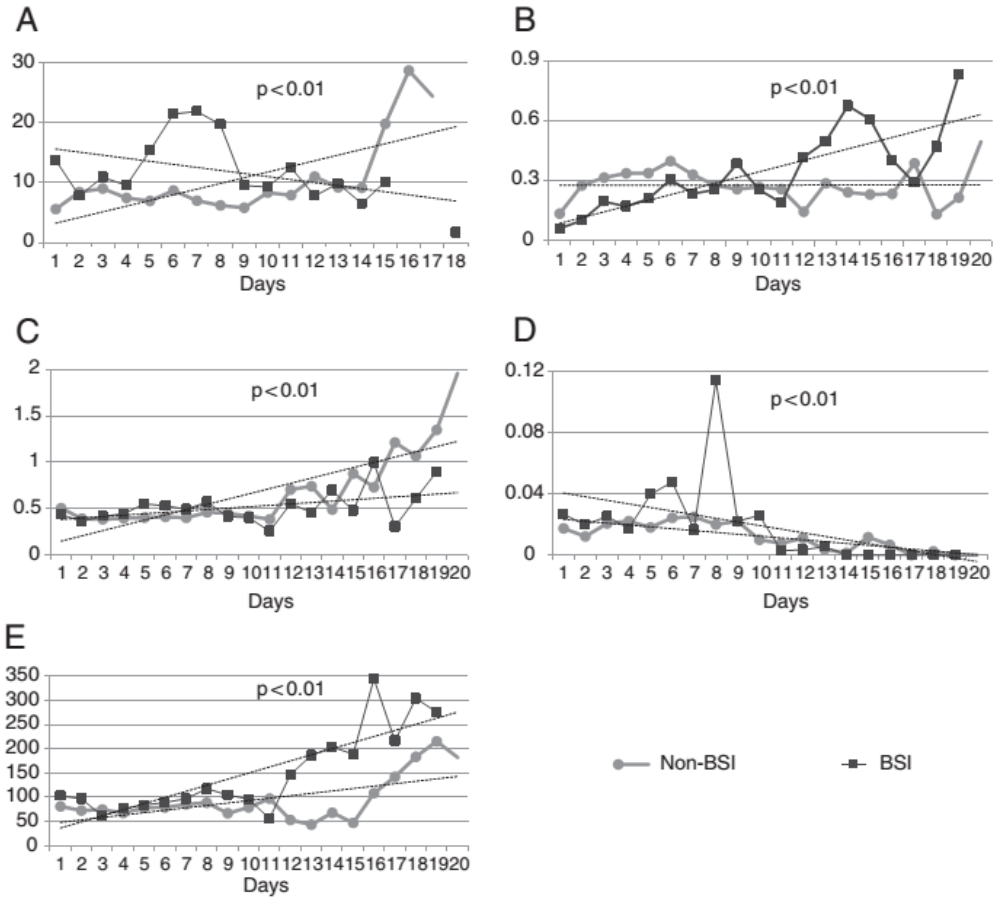
	Mean ± SD		
	BSI (N = 38)	**Non-BSI (N = 157)**	***P***
Monocyte count (cells/mm^3)	0.06 ± 0.1	0.14 ± 0.33	0.05
Leukocyte count (cells/mm^3)	1.4 ± 2.1	1.05 ± 2.04	0.4
Lymphocyte count (cells/mm^3)	0.44 ± 0.48	0.5 ± 1.1	0.7
Basophil count (cells/mm^3)	0.005 ± 0.01	0.003 ± 0.01	0.4
Eosinophil count (cells/mm^3)	0.03 ± 0.04	0.02 ± 0.04	0.25
Platelet count (cells/mm^3)	103.4 ± 143.3	81.3 ± 99.3	0.3
C-reactive protein (mg%)	13.7 ± 3.6	5.6 ± 6.5	0.06

BSI indicates blood stream infection.

TABLE 3. Cutoffs of Clinical and Laboratory Parameters of Oncologic Children With Fever and Neutropenia: Comparison Between BSI and Non-BSI Episodes

	n (%)		
	BSI (N = 38)	**Non-BSI (N = 157)**	***P***
Temperature ≥ 39°C	14/26 (54)	45/128 (35)	0.08
Monocytes (cells/mm^3) < 0.1	30/36 (83)	104/140 (74)	0.38
Leukocytes (cells/mm^3) < 0.3	13/38 (34)	63/156 (40)	0.46
Platelets (cells/mm^3) < 20	9/36 (25)	42/140 (30)	0.68
C-reactive protein (mg%) > 9	12/15 (80)	39/78 (50)	**0.046**

Value in bold indicate P ≤ 0.05 statistically significant.
BSI indicates blood stream infection.



J Pediatr Hematol Oncol. 2014 Jul;36(5):e275-9

Concluziile studiului

- 195 episoade de neutropenie febrilă la 73 de copii
- bacteriemia a fost identificată în 38 (19%) episoade
  - Bacterii Gram pozitive: 47%; Gram negative: 43%; fungi: 10%
- ***Importanța studiului:*** *valoarea de delimitare (''cut-off'') a parametrilor utilizați (temperatura, monocitele, leucocitele, trombocitele și proteina C reactivă), toți parametrii putând fi utilizați cu ușurință în practica curentă.*

Patologia digestivă și implicațiile pentru practica curentă

RESEARCH Open Access

Gut Pathog. 2019 Sep 25;11:46

Shiga toxin producing *Escherichia coli*-associated diarrhea and hemolytic uremic syndrome in young children in Romania

Oana Falup-Pecurariu[1,2], Raluca Ileana Lixandru[2], Emanuela Cojocaru[2], Katalin Csutak[2], Vlad Monescu[3], Khitam Muhsen[4], Cristian Falup-Pecurariu[1*] and Daniel Cohen[4]

Momentul publicării articolului: clusterul de cazuri de sindrom hemolitic uremic care a afectat populația pediatrică în Brașov, în anul 2016

Studiu prospectiv

722 copii (1-30 luni)

Table 1 Demographic, clinical and microbiological characteristics of 46 children aged 1–30 months hospitalized with acute diarrhea and STEC infection

Characteristics	Number (%)
Sex	
Males	31 (67.4%)
Females	15 (32.6%)
Age (months)	
Mean (standard deviation)	10.3 (6.5)
1–5	13 (28.3%)
6–11	15 (32.6%)
12–30	18 (39.1%)
Ethnicity	
Caucasian	29 (63.0%)
Roma	17 (37.0%)
Gestational age at birth	
Term delivery	40 (87.0%)
Low grade premature	6 (13.0%)
Birth weight (kg)	
2.2–2.4	6 (13.0%)
2.5–4.2	40 (87.0%)
Clinical manifestation	
Diarrhea	46 (100.0%)
Bloody diarrhea	15 (32.6%)
Vomiting	24 (52.2%)
Fever ≥ 38 °C	23 (50.0%)
White blood cells (cells/mcL)	
< 10,000	28 (60.9%)
≥ 10,000	18 (39.1%)
Neutrophils (cells/mcL)	
1400–4600	23 (50.0%)
4601–13,000 cells/mcL	23 (50.0%)
Hemoglobin, gr/dL	
< 11	17 (37.0%)
≥ 11	29 (63.0%)
C reactive protein	
< 1	44 (95.7%)
≥1	2 (4.3%)
Duration of hospitalization (days)	
Minimum–maximum	1–14
Median (interquartile range)	5 (2)
Mixed infection	
With rotavirus	13 (28.2%)
With adenovirus	7 (15.2%)
With *Salmonella*	1 (2.1%)

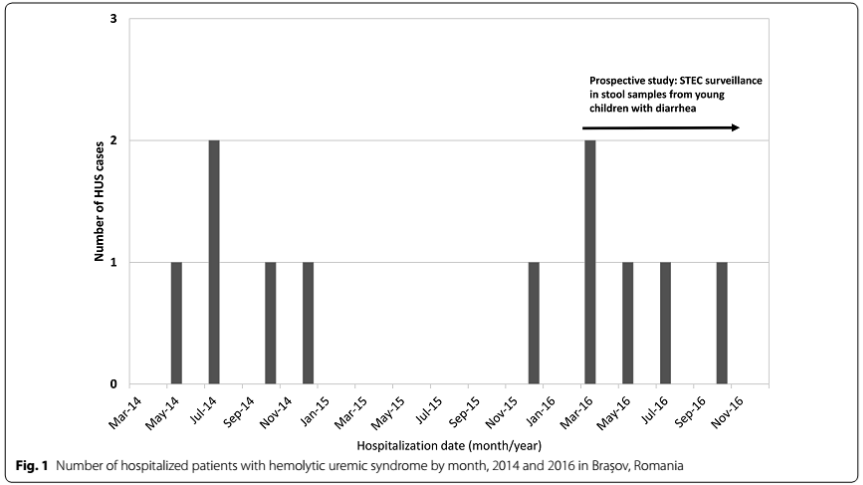


Fig. 1 Number of hospitalized patients with hemolytic uremic syndrome by month, 2014 and 2016 in Braşov, Romania

Table 2 Demographic, clinical and laboratory characteristics of children aged 5–30 months hospitalized with hemolytic uremic syndrome, Braşov, Romania, 2014–2016

Total number of patients	11
Age	Mean: 20 months
	Median: 10 months
	Range: 5–30 months
Female/male ratio	6/5
Prodromal diarrhea	10
Bloody diarrhea	4
Vomiting	9
Fever ≥ 38 °C	4
Hematuria	11
Proteinuria	11
Oliguria	5
White blood cells count ≥ 15,000 cells/mcL	8
Trombocytopenia (mean 73,000 cells/mcL)	11
Hematocrit < 30%	10
Serum creatinine levels ≥ 3.64 mg/dL	11

Data presented are absolute number unless mentioned otherwise

Concluziile studiului

- Prevalența înaltă a Shiga like toxin în județul Brașov
- Noutatea studiului: observarea la distanță a comportamentului a două focare epidemice de sindrom hemolitic uremic

Terapiile imunomodulatoare la copii

microorganisms

Prevention of New Respiratory Episodes in Children with Recurrent Respiratory Infections: An Expert Consensus Statement from the World Association of Infectious Diseases and Immunological Disorders (WAidid)

Susanna Esposito [1,*], Marcus Herbert Jones [2], Wojciech Feleszko [3], José A. Ortega Martell [4], Oana Falup-Pecurariu [5], Natalia Geppe [6], Federico Martinón-Torres [7], Kun-Ling Shen [8], Michael Roth [9] and Nicola Principi [10]

Studiul tip review - World Association of Infectious Diseases and Immunological Disorders

Consens internațional al abordărilor disponibile pentru prevenția Infecțiilor de tract respirator

Product	Main Data	Main Limitations	Consensus Statement and Suggestions for Future Research
Pidotimod	Positive influence on innate and adaptive immunity in vitro, efficacy in prevention of RTIs in RTI-prone children, duration and severity of respiratory symptoms, antibiotic use, good safety profile.	Licensed for children ≥3 yrs, to be given 2 hrs before or after meals, available only in few countries, few studies available with sufficient details on randomization method and using blind approach, heterogeneity in dosages and schedule of administration.	Pidotimod could play a role in prevention of respiratory recurrences in RTI-prone children ≥3 yrs old, although further randomized, double-blind studies are needed to confirm population that could have advantages and to define the dosages and schedule of administration.
OM-85	Positive influence on innate and adaptive immunity in vitro, downregulation of inflammatory state, efficacy in prevention of RTIs in RTI-prone children, duration and severity of respiratory symptoms, antibiotic use, days of absence from day-care of children and working days lost by parents, efficacy in children with recurrent wheezing and asthma, excellent safety profile.	Absence of biomarkers able to predict the best responder profile and a precise-host tailored medicine.	OM-85 should be recommended for prevention of respiratory recurrences in RTI-prone children ≥6 months old, although further studies on detection of biomarkers able to support the identification of best responder profile and a precise-host tailored medicine are needed.
Ribomunyl	Modulation of innate and adaptive immunity in vitro, some clinical evidence in reduction of RTI and antibiotic courses.	Availability of few studies with enrolment of a relatively low number of children. Not available on the market worldwide anymore.	Ribomunyl cannot be recommended for the prevention of recurrences in RTI-prone children.
PBML and LW50020	Stimulation of innate and adaptive immunity in vitro.	Few clinical evidences.	PBML and LW50020 cannot be recommended for the prevention of recurrences in RTI-prone children.
B-glucans	Enhancement of activity of innate and adaptive immunity in vitro.	Contrasting results in efficacy against respiratory recurrences, good safety and tolerability profile.	B-glucans cannot be recommended for the prevention of recurrences in RTI-prone children.
Probiotics	Modulation of innate and adaptive immunity in vitro, main data on *Lactobacillus* spp. and *Bifidobacterium* spp. that in some studies reduced episodes of upper RTI, antibiotic use and school absences.	Very few data on RTI-prone children, heterogeneity in type of probiotic tested, dose and duration of administration.	Probiotics cannot be recommended for the prevention of recurrences in RTI-prone children.
Vitamins	Vitamin A and vitamin C: No reliable data on vitamin A and vitamin C Vitamin D: Modulation of innate and adaptive immunity in vitro, safe protection against acute RTIs, with major benefits in very deficient individuals and those not receiving bolus doses.	Vitamin A and vitamin C: No evidence for the prevention of RTIs in children. Vitamin D: Few data on RTI-prone children.	Vitamin A and vitamin C cannot be recommended for the prevention of recurrences in RTI-prone children. Vitamin D could play a role in children with recurrent RTIs, although further methodologically adequate studies in RTI-prone children are needed to clarify the lowest minimum vitamin D serum level associated with an increased risk of RTIs, the most effective dosage, schedule of administration and duration of treatment.
Echinacea	Stimulation of macrophage with production of cytokines as well as antiviral and antibacterial action in vitro.	No evidence for the prevention of RTIs in humans.	Echinacea cannot be recommended for the prevention of recurrences in RTI-prone children.
Honeybee products (propolis and royal jelly).	Antioxidant, immunomodulatory, antibacterial, antiviral and anti-inflammatory properties in vitro.	Effect in only one study on recurrent acute otitis media; absence of well-conducted studies including RTI-prone children suffering from RTIs other than otitis.	Honeybee cannot be recommended for the prevention of recurrences in RTI-prone children.

Cross-sectional prevalence of SARS-CoV-2 antibodies in healthcare workers in paediatric facilities in eight countries

D. Goldblatt [a,b,*], M. Johnson [a], O. Falup-Pecurariu [c], I. Ivaskeviciene [d], V. Spoulou [e], E. Tamm [f], M. Wagner [g], H.J. Zar [i], L. Bleotu [c], R. Ivaskevicius [d], I. Papadatou [j], P. Jõgi [f], J. Lischka [h], Z. Franckling-Smith [i], D. Isarova [k], L. Grandjean [a,b], D. Zavadska [k]

J Hosp Infect. 2021 Apr;110:60-66

- Scopul studiului: compararea seroprevalenței SARS-CoV-2 la personalul medical din unitățile pediatrice
- 7 țări Europene + Africa de Sud
- 4114 lucrători din domeniul sanitar

Table I
Overall demographics and results for the eight cohorts studied

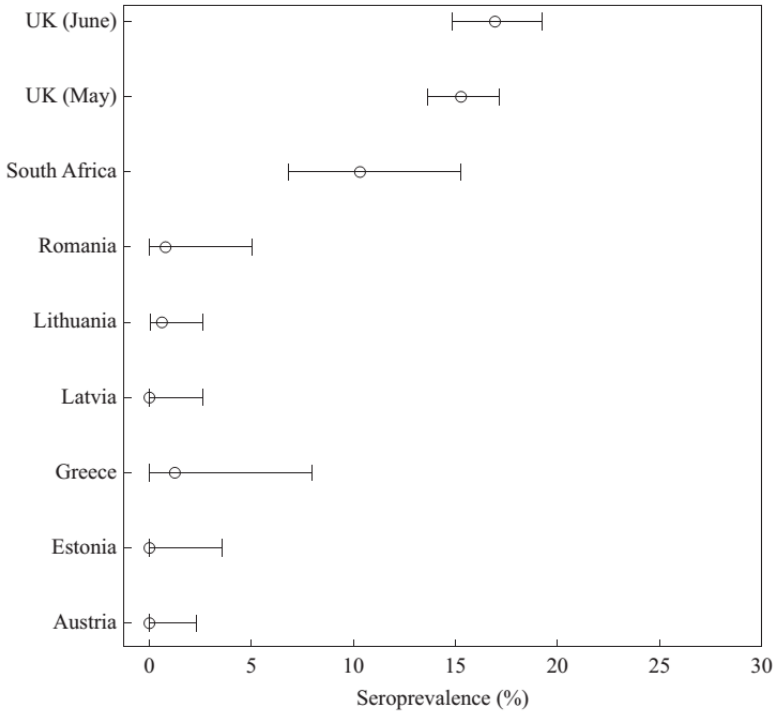
Country	*N* of samples	% female	Age in years (mean, range)	Date of first nationally recorded case of COVID-19	Sample collection date range	*N* with clinical symptoms	*N* with positive PCR results	Proportion with positive PCR results	Proportion of cohort with symptoms	If symptomatic, time between symptom onset and blood test	*N* seropositive	seroprevalence rate (95% CI)	National COVID-19 rate/ 100,000 population at time of sampling
Austria	196	84.2	38, 22–65	25/02/2020	17–24/07/20	33	0	0	16.8	116 days	0	0 (0–1.92)	225.8
Estonia	130	96.2	50, 19–71	27/02/2020	10–12/06/20	23	0	0	17.7	96 days	0	0 (0–2.87)	148.2
Greece	77	77.6	45, 18–67	26/02/2020	19/06–16/07/20	0	0	0	0.0	0	1	1.3 (0.23–7.0)	34.5
Latvia	177	92.7	42, 20–73	03/03/2020	19/05–20/06/20	39	0	0	22.0	82 days	0	0 (0–2.14)	54.7
Lithuania	300	93.0	49, 22–70	28/02/2020	01–12/06/20	28	2	0.67	9.3	93 days	2	0.66 (0.18–2.4)	59.1
Romania	124	94.4	43, 21–65	26/02/2020	14/05/20–27/05/20	1	1	0.81	0.8	Not available	1	0.81 (0.14–4.3)	87.6
South Africa	222	78.8	41, 19–67	05/03/2020	10/06–17/08/20	69	17	7.66	31.1	46 days	23	10.36 (7–15.07)	974.4
UK	1754	65.5	38, 19–69	15/02/2020	01/05–31/05/2020	772	15	0.86	44.0	64 days	269	15.34 (13.73–17.1)	390.1
UK	1134	72.9	37, 19–78	15/02/2020	01/06–30/06/2020	869	15	1.32	76.6	89 days	192	16.93 (14.86–19.22)	459.1

PCR, polymerase chain reaction; COVID-19, coronavirus disease 2019; CI, confidence interval.

Goldblatt D et al. J Hosp Infect. 2021 Apr;110:60-66

Table II
Google Mobility and the Oxford COVID-19 Government Response Tracker for the eight participating countries

Country	Average Google mobility reduction in non-residential activity (%)	Oxford COVID-19 Government Response Tracker score (%)
Austria	-31	62
Estonia	-11	50
Greece	-37	63
Latvia	-19	70
Lithuania	-21	60
Romania	-42	50
South Africa	-40	90
UK	-33	75



Concluziile studiului

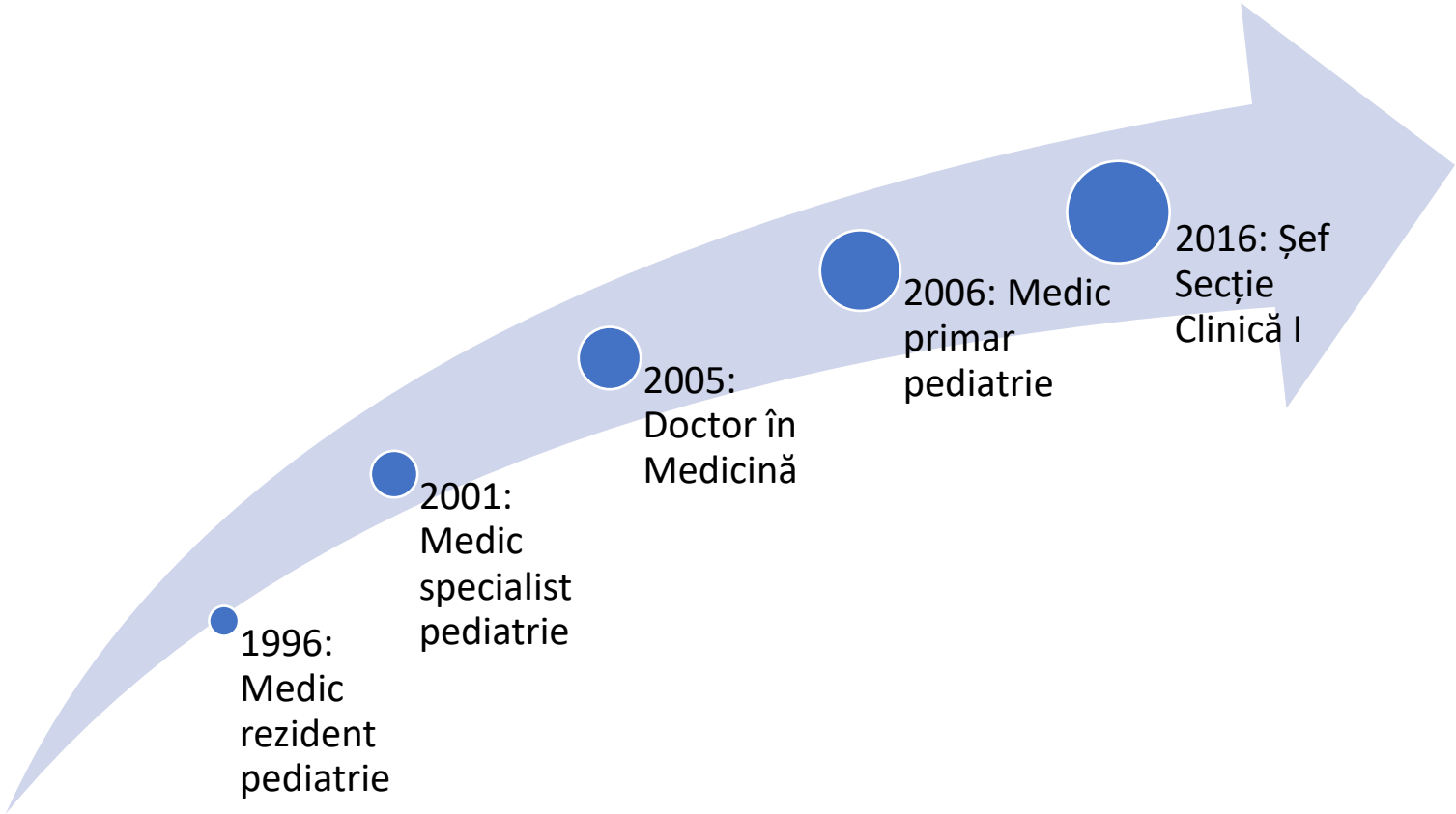
- **Primul studiu** referitor la prezența anticorpilor anti COVID-19 la personalul medical
- Personalul din domeniul sanitar din departamentele pediatrice au prezentat rate de seroprevalență similare cu populația generală
  - succes al protecției în departamentele pediatrice
  - absența expunerii nosocomiale sau lipsa transmiterii de la copii infectați la adulți

Evoluție și realizări academice

Experiența profesională universitară

- 1996: Preparator universitar
- 2003: Asistent universitar
- 2009: Șef de lucrări
- 2015: Conferențiar

Experiența profesională clinică medicală și de formare



Proiectele de cercetare-dezvoltare și educaționale în calitate de director de proiect si granturile obținute

Granturi educaţionale la nivel postuniversitar câştigate prin competiţie internaţională

- Grant educaţional European Society of Pediatric Infectious Diseases (ESPID) 2007, 2008, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018 – Responsabil

Granturi ştiinţifice la nivel postuniversitar câştigate prin competiţie naţională şi internaţională

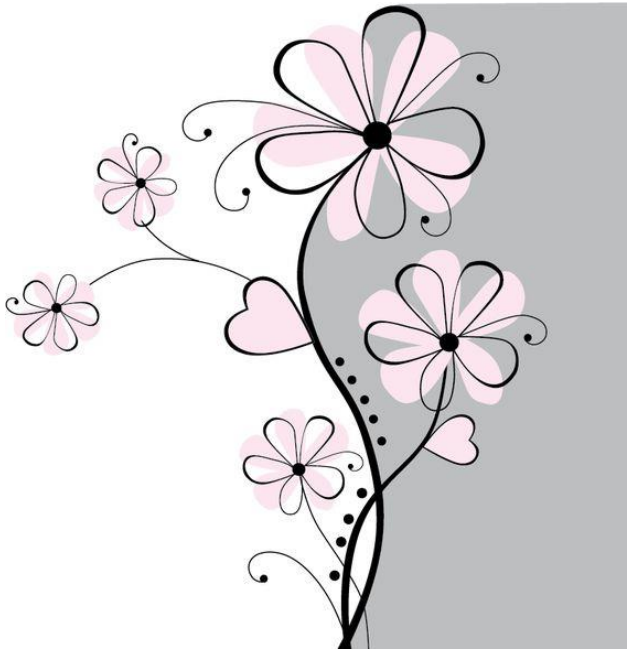
- Grant Pfizer - Serotypes distribution, antibiotic resistance of *Streptococcus pneumoniae* in nasopharynx (NP) and middle ear fluid (MEF) and invasive pneumococcal diseases in children < 5 years of age at the Children's Hospital Brasov - Director
- Sistem integrat de management al informaţiilor medicale utilizând standardul HL7 – SIMIMED, Director de proiect Prof.Dr.Ing.Aurel Vlaicu, 2007-2010, Membru
- Achiziţie de semnale biomedicale şi tele-transmisie prin echipamente mobile de calcul – BIOMED-TEL Director de proiect Prof.Dr.Ing.Paul Borza, Membru, 2007-2010.
- Contract Idei. Influenta profilului frontal al caroseriei asupra vătămării pietonilor, Director de proiect: Conf.Dr.Ing.Adrian Soica, 2007-2010, Membru.
- European Society of Infectious Diseases (ESPID) Research Grant ''Nasopharyngeal colonization with *Streptococcus pneumoniae* in healthy infants and young children in Brasov, Central Romania: antibiotic resistance, serotype distribution, prevalence of nonvaccine serotypes and 7-valent pneumococcal conjugate vaccine coverage'' – Director, 2008-2009
- Membru în colectivul de cercetare în studii clinice multicentrice internaţionale

Premii și alte elemente de recunoaștere a contribuțiilor științifice

- Secretar al European Society for Pediatric Infectious Diseases (ESPID) – 2019-2022
- Chair, Plenary Symposium 03: Healthy housing, Chair, Paralel Symposium 10, 39th Annual Meeting of the European Society for Paediatric Infectious Diseases, 24-29.05.2021, online & hosted from Geneva
- Membru Board ESPID - 2015-2018
- Membru în Comitetul de Educație al ESPID 2015-2016
- Secretar al Community-Acquired Pneumonia Paediatric Research Initiative (CAP-PRI) (2009-2013)
- Fellowship NATO Advanced Study Institute, 2001
- Membru de onoare al Societății Române de Microbiologie

Organizator local

- **Director de Curs**
  - 13 ediții anuale ale Teaching Course of Pediatric Infectious Diseases 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020 (virtual), 2021 (virtual)
  - Școala de Iarnă de Boli Infecțioase Pediatrice – 5 ediții: 2017, 2018, 2019, 2020, 2021 (virtual)



Membru în Comitetele de organizare manifestări ştiinţifice internaţionale

- **Membru în Comitetele de organizare manifestări ştiinţifice internaţionale**
  - Membru în Comitetul Științific Internațional al Congresului European Society for Pediatric Infectious Diseases (ESPID) 2022, 9-13 mai 2022, Atena, Grecia.
  - Membru în Comitetul Științific Internațional al Congresului ESPID 2015, 12-16 mai 2015, Lepizig, Germania.
  - Membru în Comitetul Științific Internațional al 8th World Congress of the World Society for Pediatric Infectious Diseases (WSPID), Cape Town, South Africa, 19-22 noiembrie, 2013.
  - Membru în Comitetul Științific Internațional al 7th World Congress of the World Society for Pediatric Infectious Diseases (WSPID), Melbourne, Australia, 16-19 Noiembrie, 2011.

Vizite și stagii clinice și de documentare

Soroka Hospital, Universitatea Negev, Beer-Sheva, Israel – 2015, 2016, 2017, 2018, 2019

Stagiu de perfecţionare Clinica de Pediatrie Sagamihara, Tokyo, Japonia, 21.02.2004-21.03.2004

Stagiu de perfecţionare Clinica de Pediatrie, Spitalul Heemstede, Olanda martie-aprilie 2002

Charing Cross and Westminster Medical School, University of London, UK, Academic Department of Child Health, Chelsea and Westminster Hospital, 27.03.1996 – 25.05.1996 (2 luni)

Stagiu de perfecţionare în perioada 06.09.1993 – 17.09.1993, Robert Bosch Krankenhaus, Stuttgart, Germania, Clinica de Anestezie şi Terapie Intensivă

Participări la Congrese/Conferințe internaționale

- 3rd Euro-Asian Summit of Experts on Pneumococcal Infection, 23-27 August 2019, St. Petersburg, Rusia
- 37th Annual ESPID Meeting, 6-11 mai 2019, Ljubljana, Slovenia
- 36th Annual ESPID Meeting, 28.05 – 2.06.2018, Malmo, Suedia
- 35th Annual ESPID Meeting, 23-27.05.2017, Madrid, Spania
- 34th Annual ESPID Meeting, 10-14.05.2016, Brighton, UK
- 33rd Annual ESPID Meeting, 12-16 mai 2015, Leipzig, Germania
- 3th Annual ESPID Meeting, 28.05 – 01.06.2013, Milano, Italia
- Curs Internaţional “Vaccines as a Tool for achieving a better quality of life”, Vilnius, Lituania, organizat sub egida ESPID, 2-3 Aprilie 2008
- 5th World Congress of the World Society for Pediatric Infectious Diseases (WSPID), Bangkok, Thailanda, 15-18 noiembrie 2007
- 24th Annual Meeting of the European Society for Paediatric Infecţious Diseases – ESPID, Basel, Mai 3-5 2006
- World Society of Pediatric Infectious Diseases Congress, Varsovia 2005

O sinteză a principalelor realizări

Teza de doctorat cu titlul: **„Realimentarea precoce în boala diareică acută a sugarului”**

Nr. cărţi publicate în edituri naționale: 6

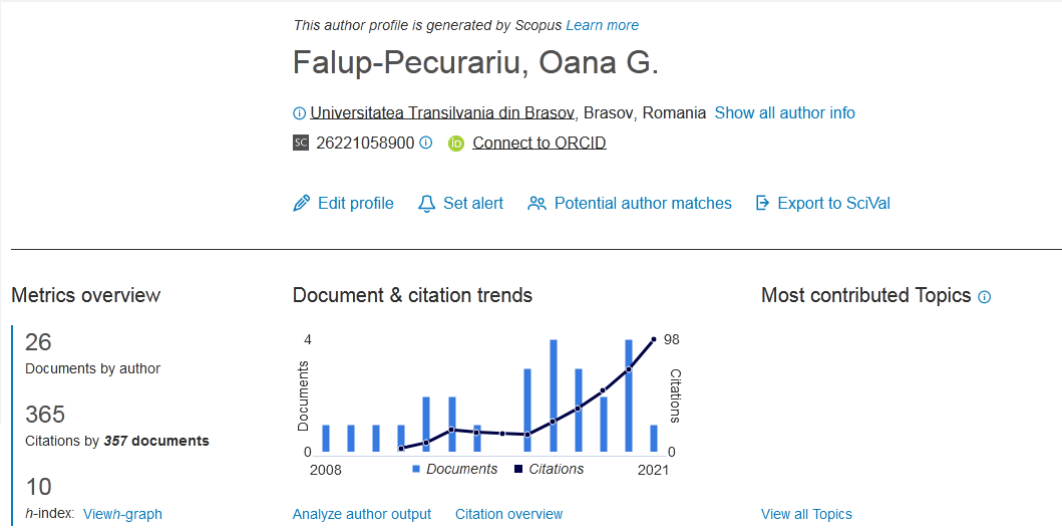
Nr. lucrări indexate ISI prim autor: 13

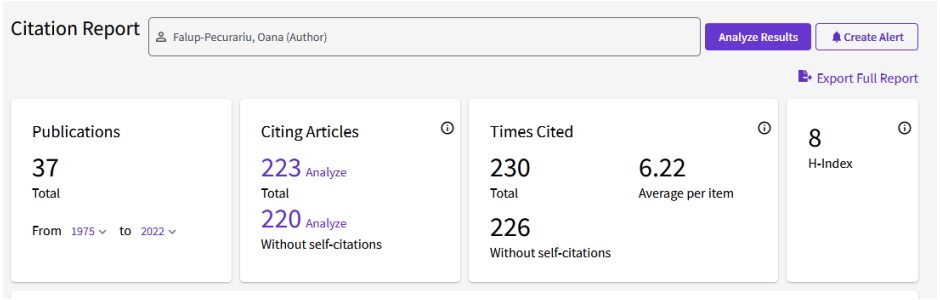
Nr. lucrări indexate ISI coautor: 9

Nr. lucrări indexate BDI: 10

Nr. lucrări în volumele conferințelor: 38

Indice Hirsch



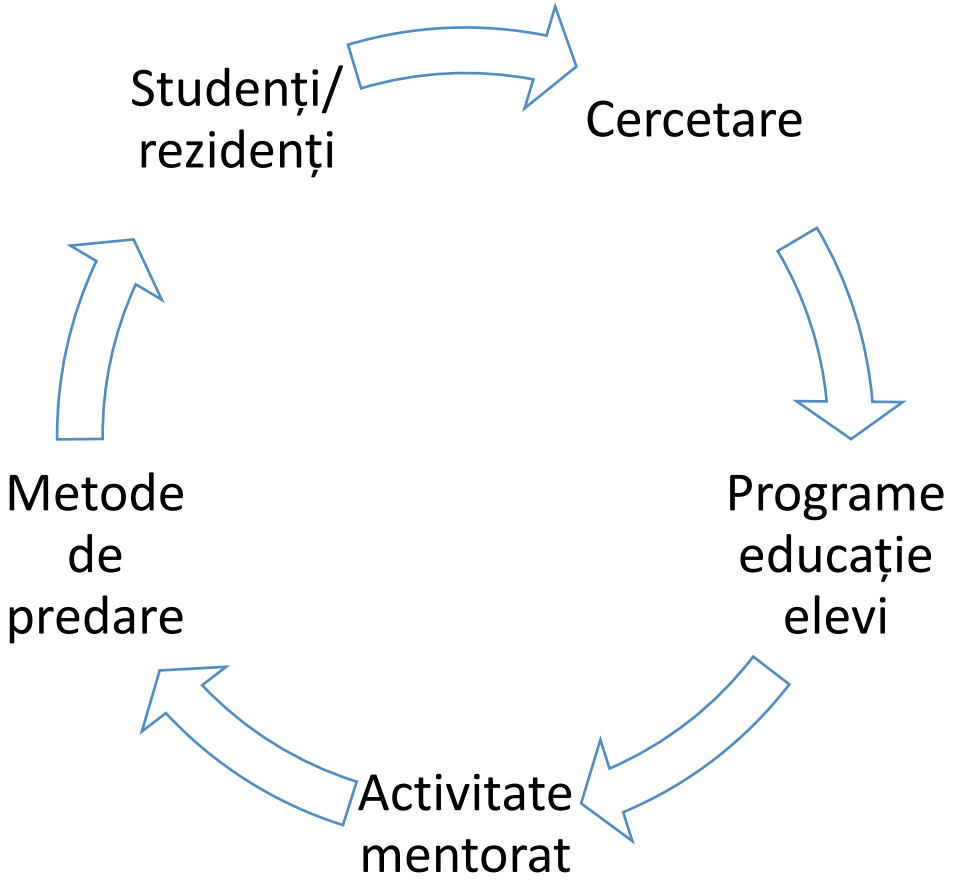


Planuri de evoluție și dezvoltare a carierei profesionale

Dezvoltarea Secției Clinice I din cadrul Sp. Clinic de Urgență pentru Copii, Brașov
Urmărirea și monitorizarea mai eficientă a dezvoltării nou născuților
Aplicarea mai riguroasă a politicilor de alimentație naturală
Dezvoltarea bazei de urmărire a nou născuților proveniți mai ales din medii defavorizate
Demersuri în sprijinirea constituirii unor registre locale de urmărire a bolilor cronice digestive
Implementarea supravegherii active a dezvoltării neuropsihice
Monitorizarea la nivel local a tratamentului și recuperării bolilor cronice digestive

Plan de dezvoltare al activității didactice

Plan de dezvoltare a activității științifice



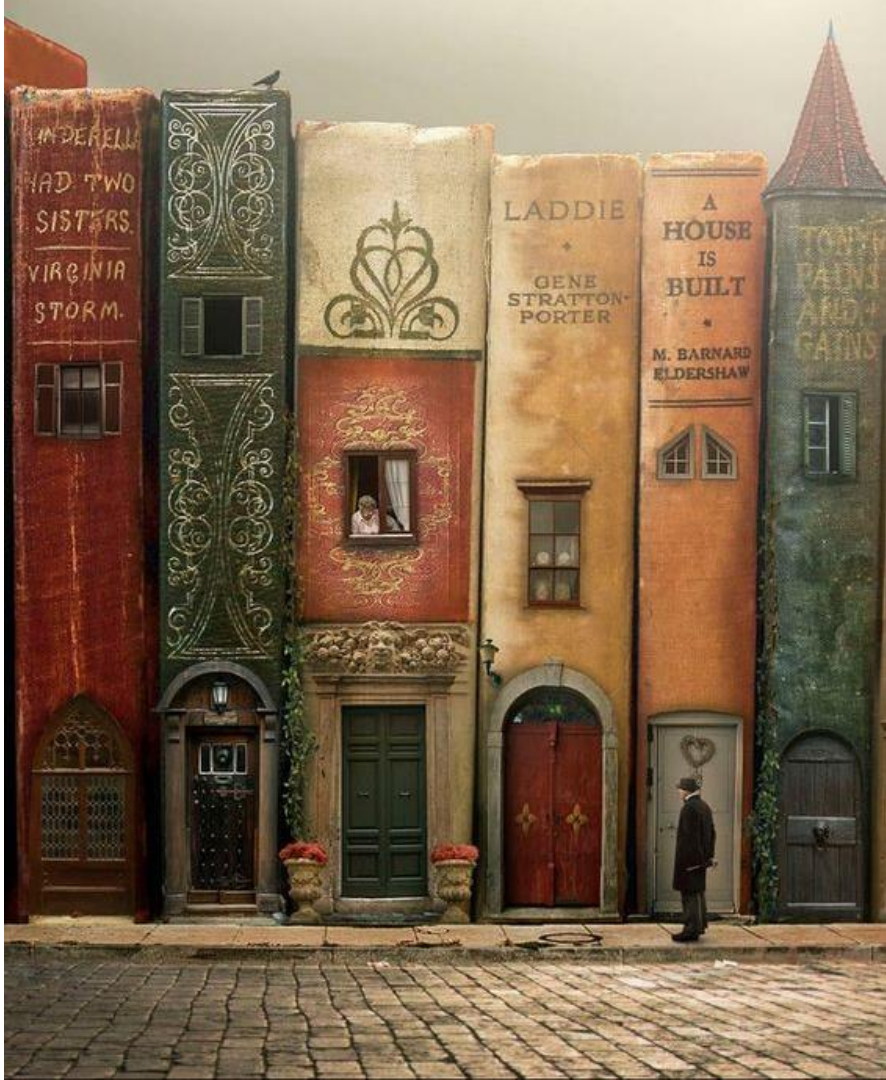
Plan de dezvoltare a activității științifice

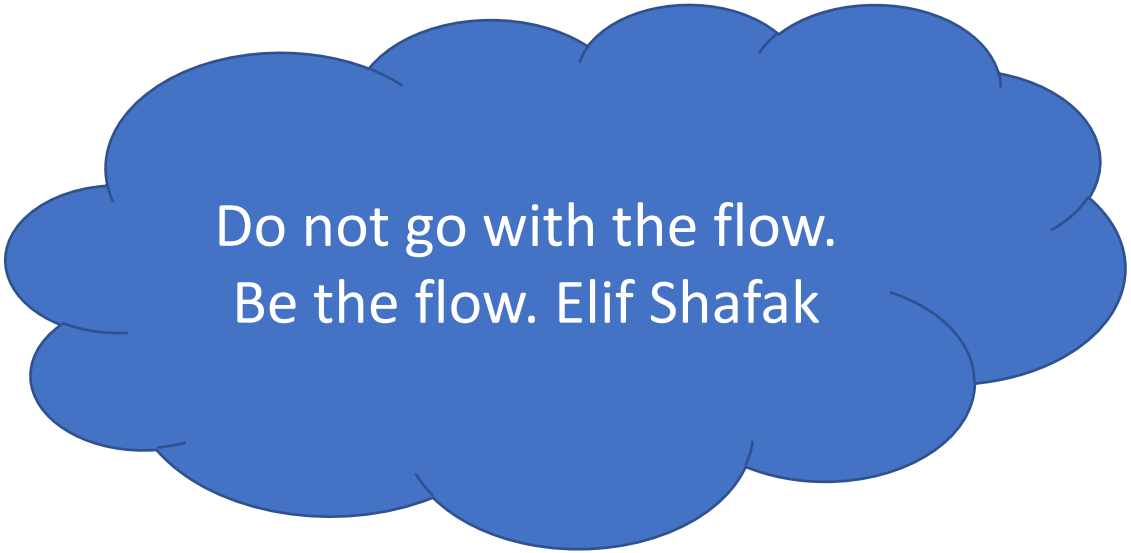
- supravegherea eficienței vaccinului PCV 13 valent
- studiul rezervorului de meningococ
- epidemiologia infecțiilor digestive determinate de rotavirus
- supravegherea activă a infecțiilor digestive, determinate atât de bacterii cât și de celelalte virusuri digestive, prin utilizarea PCR-RT
- supravegherea activă a infecțiilor asociate actului medical
- studii legate de etiologia bronșiolitelor
- studiului rezistenței la antibiotice pe principalii germeni cauzatori ai infecțiilor de tract urinar la sugarul mic

Continuarea activității educaționale

- Organizarea cursurilor sub egida Societății Europe de Boli Infecțioase Pediatrice.
- Organizarea Școlii de Iarnă de Boli Infecțioase Pediatrice cu participarea lectorilor prestigioși din țară dar și străinătate
- Continuarea activităților lunare de Club de Jurnal Medical
- Lărgirea colectivelor de cercetare cu continuarea cooperării în ceea ce privește domeniul bolilor infecțioase cu Facultatea din Beer Sheva, Soroka Medical Center dar și cu Universitatea de la Tel Aviv, alături de Universitatea din Creta (Grecia).

•prezentarea rezultatelor la conferințe locale, europene și mondiale
•stabilirea de noi legături și grupuri de cercetare internaționale




Do not go with the flow.
Be the flow. Elif Shafak


Va multumesc pentru
atentie!