

Brief description on antimicrobial stewardship activities on the local level

Katarina Stavrikj
Center for Family medicine Medical Faculty

Neda Milevska Kostova
CRPRC Studiorum



Министерство за здравство
на Република Македонија



World Health
Organization



STUDIORUM
Center for Regional Policy Research and Cooperation

**Health is a right, but also a
responsibility**

**18 November: European Antibiotic Awareness
Day (EAAD) – ECDC, 2008**

- Inevitability of promoting responsible use of antibiotics and the risks associated with inappropriate use

**World Antibiotic Awareness Week (November)
(WAAW) – WHO, 2015**

Activities in Macedonia 2008-2016

- Macedonia has joined and actively participated in EAAD since its inauguration in 2008:
 - 2008 – 2016 - general population
 - 2009 – primary care physicians and dentists
 - 2010 – clinicians and hospital practitioners
 - 2011 – pharmacists
 - 2012 – veterinary doctors
 - 2013 – microbiologists (WHO Country Office)
 - 2014 – clinicians (CAESAR), primary care physicians
 - 2015 – clinicians (CAESAR), WAAW
 - 2016 – all specializations, primary care physicians

Activities in Macedonia 2008-2016



**Brochures, posters,
Check-lists, flyers...**

**Scientific articles
General audience
articles...**

Health Professionals

2008

2009

2010

...

2014

2015

2016

...



Hand Hygiene: Essential part of everyone's right and responsibility for health 2014, 2015, 2016

Inseparable and vital in the **AMR prevention and promotion of rational use of antibiotics**

- Seminars and workshops for health professionals in hospital sector
- Promotional materials: educative, practical,

Како да ги миете рацете?

КОГА РАЦЕТЕ СЕ ВИДЛИВО НЕЧИСТИ, ИЗМИЈТЕ ГИ ВО СПРОТИВНО, МОЖЕТЕ ДА ГИ ИСТРИЕТЕ СО ДЕЗИНФИЦИЕНС ЗА РАЦЕ

Времетраење на целата постапка: 40-60 секунди

0 Навлажете ги рацете со вода.	1 Навистега доволно сапун за да покриете цела површина на рацете.	2 Истријте ги долните краеви од други.
3 Поставете ја долната дланка врз надворешната страна на левата рака и трети со извртена рака и обрвце.	4 Истријте ги долните страни со интервалните прсти.	5 Истријте ги внатрешните страни на прстите од други.
6 Со ротирачка движења истријте го левото палец со десната рака и обрвце.	7 Со опрени прсти на долната рака со ротирачки движења истријте ја надворешната страна на левата рака и обрвце.	8 Испуштајте ги рацете со вода.
9 Добро избришете ги рацете со крпа на една употреба.	10 Со асета крпа затворете ја сапунската.	11 Вашиите раце се чисти.

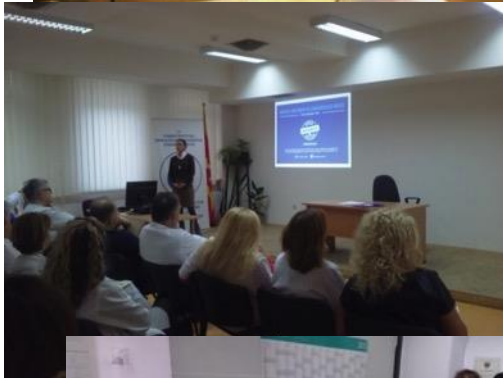


Светот може да се промени во само **5 чекори**

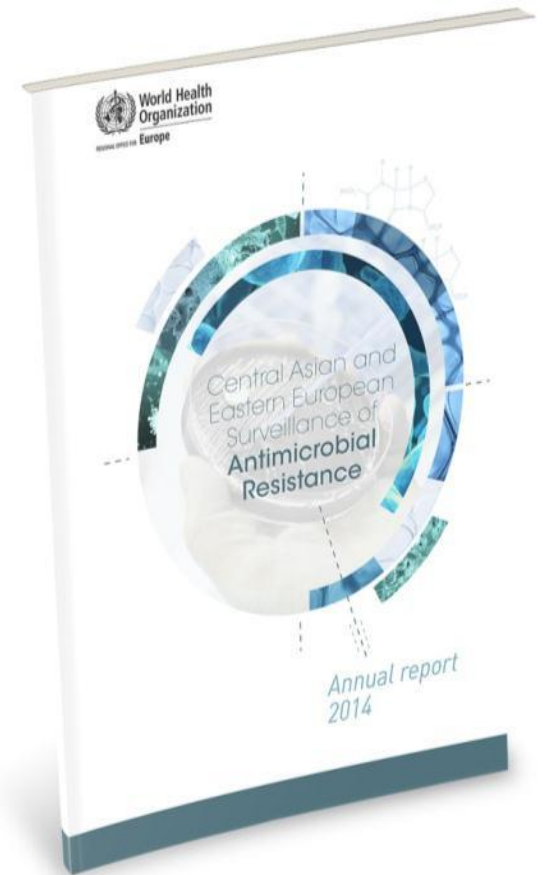
Чистете ги рацете и спрете го ширењето на бактериите отпорни на антибиотици!

Светска Здравствена Организација | Спасете живот чистете ги рацете | Без акција денес нема да има лек утре

World Antibiotic Awareness Week 2016



National CAESAR Network

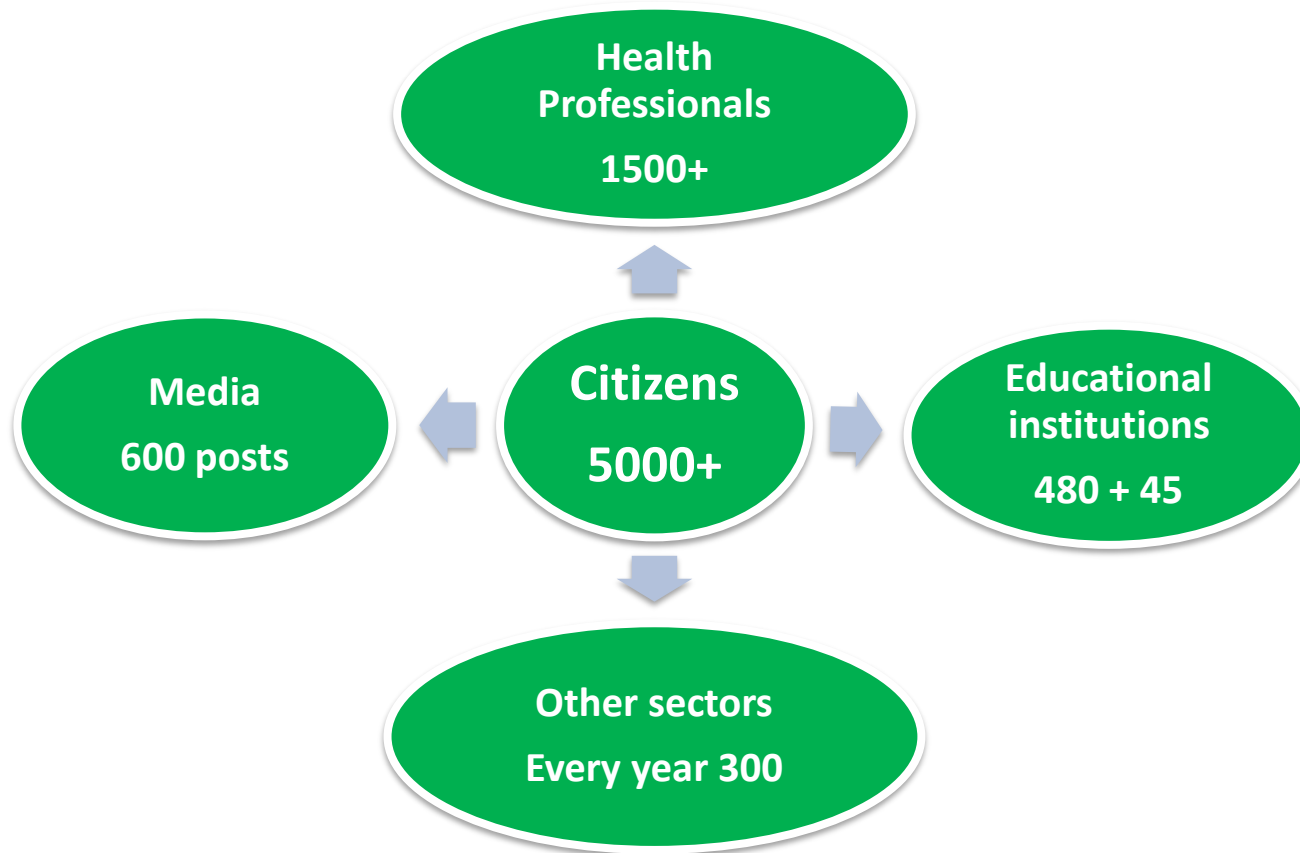


Online Antimicrobial Stewardship Course 2016

- WHO and University of Stanford, USA
- 26 modules
- 55 health professionals



Achieved results: 2008 – 2016





E-quality program 2014/2015: Project:
Investigation of GPs prescribing habits
of antibiotics for acute respiratory
tract infections followed by
educational intervention

WHY!

- 1500 GP
- 2007 – Cochrane guidelines translated
- 2007 –gate keeping system
- 2010 – Department of FM at Medical Faculty Skopje
- 2010 specialization/retraining in FM
- 2013 HIF-CME education for GP (Treatment of respiratory tract infections)
- 2014 CME by Ministry of health
- 2014 electronic health records in PHC

Project

Preparatory phase
August-September
2014

Key leaders

Selection of
doctors

Meetings

Survey
November– June
2014-2015

Survey

monitoring

Statistical analysis

Symposium

Educative
intervention
June- September
2015

On line education

Research
September–
November 2015

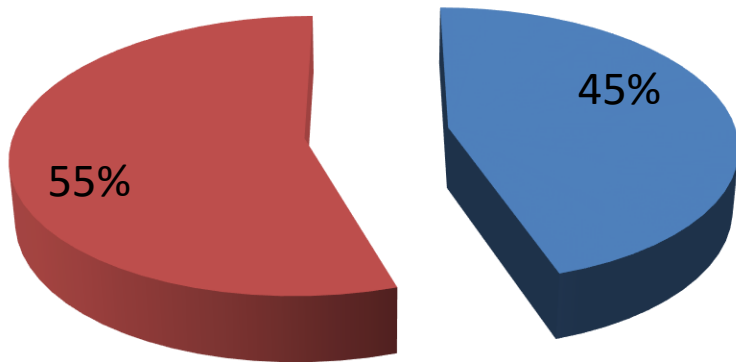
Selection of new
group of doctors

Survey

Acute respiratory infections

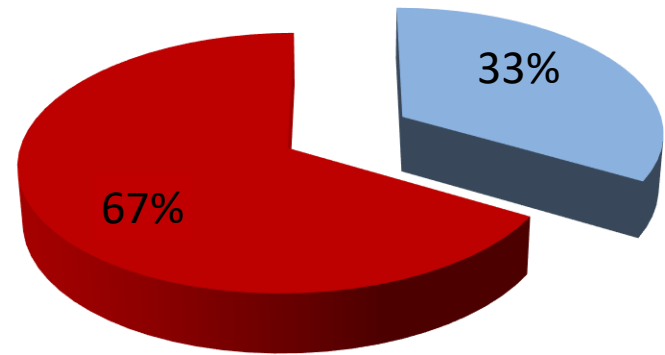
Upper ARI 71.9%

■ NO Ab ■ Ab+



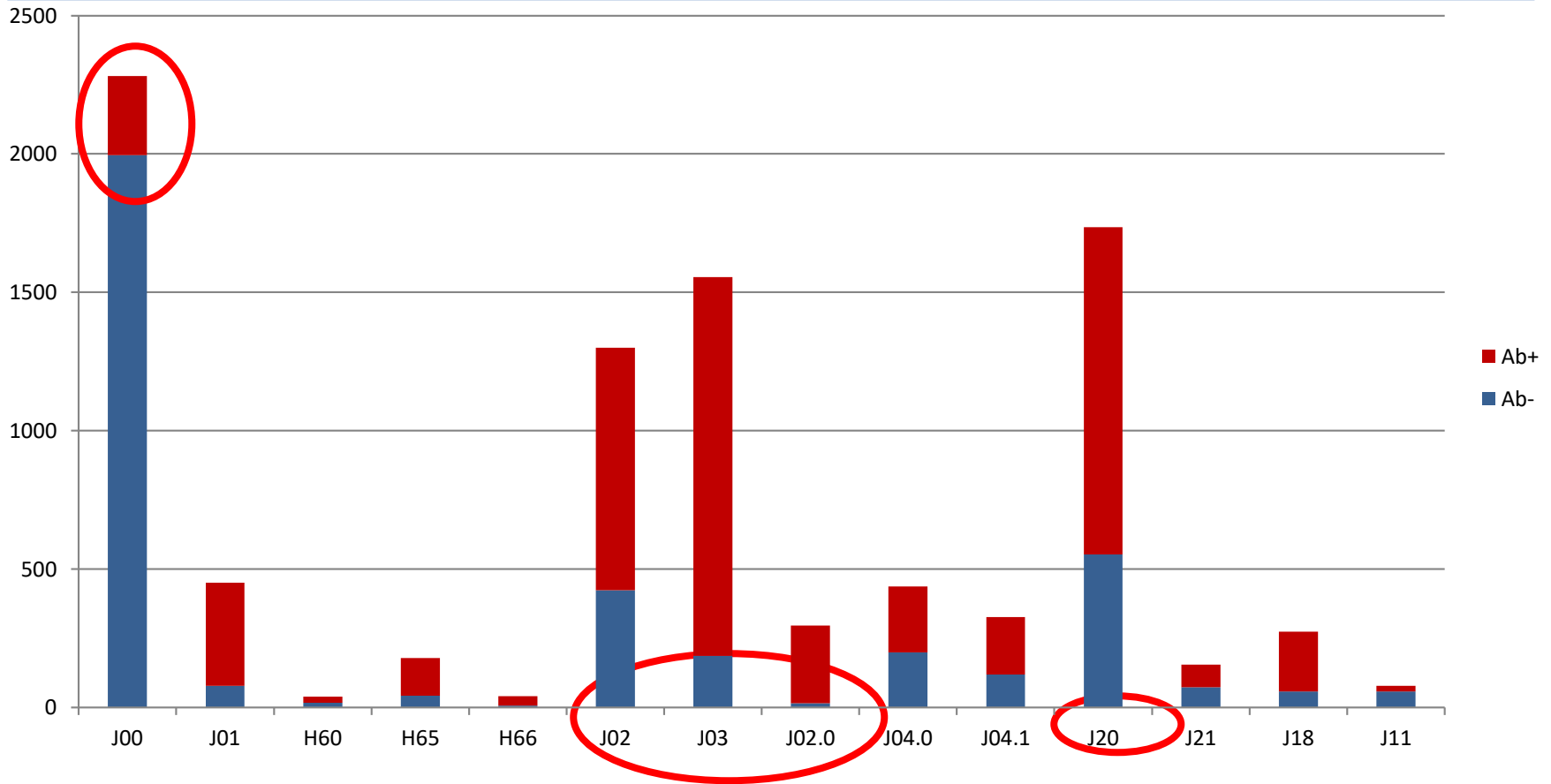
Downer ARI 28.1%

■ NO Ab ■ Ab+



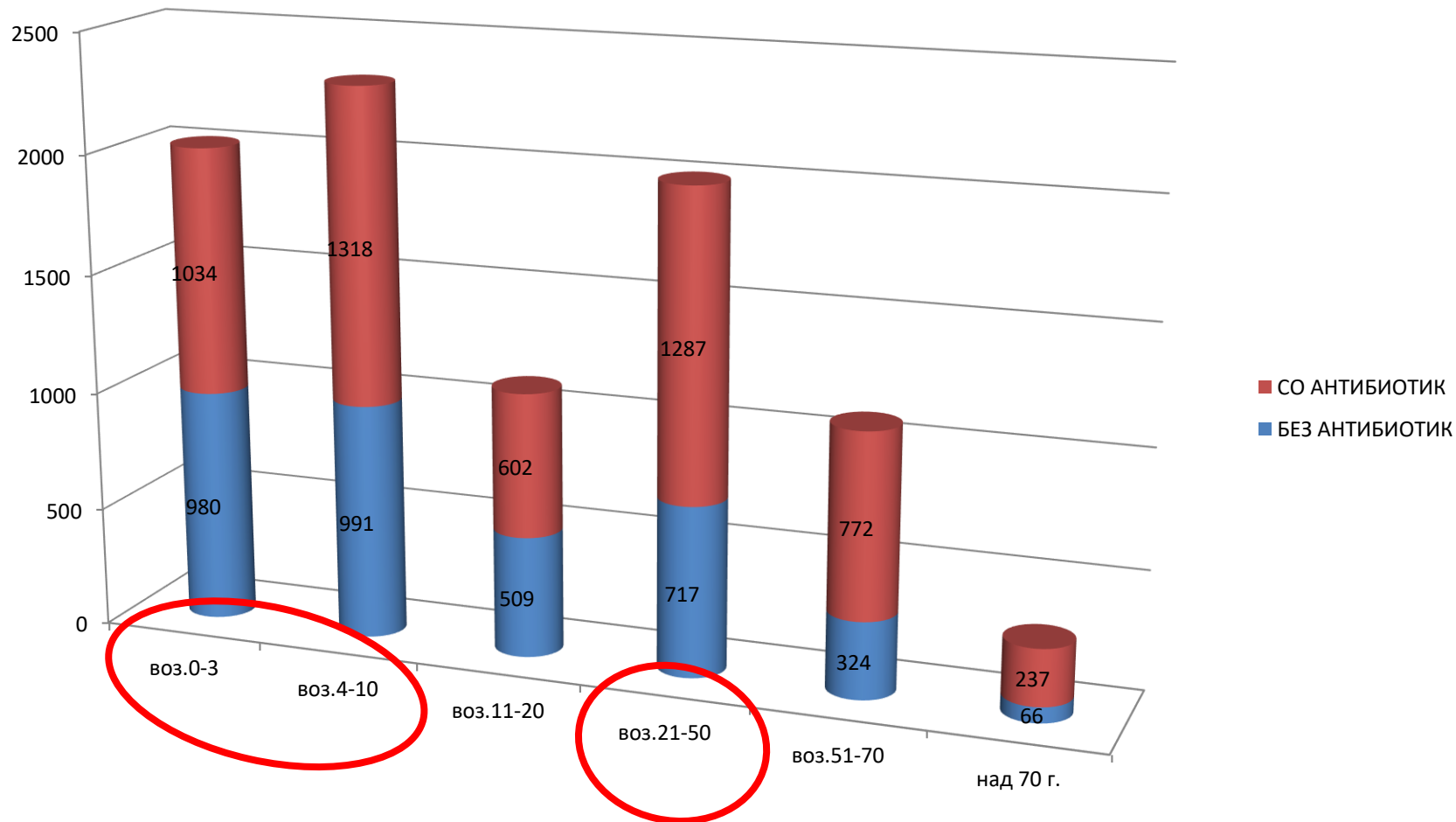
55% Upper respiratory infections
67% Downer respiratory infections

Represented to diagnoses



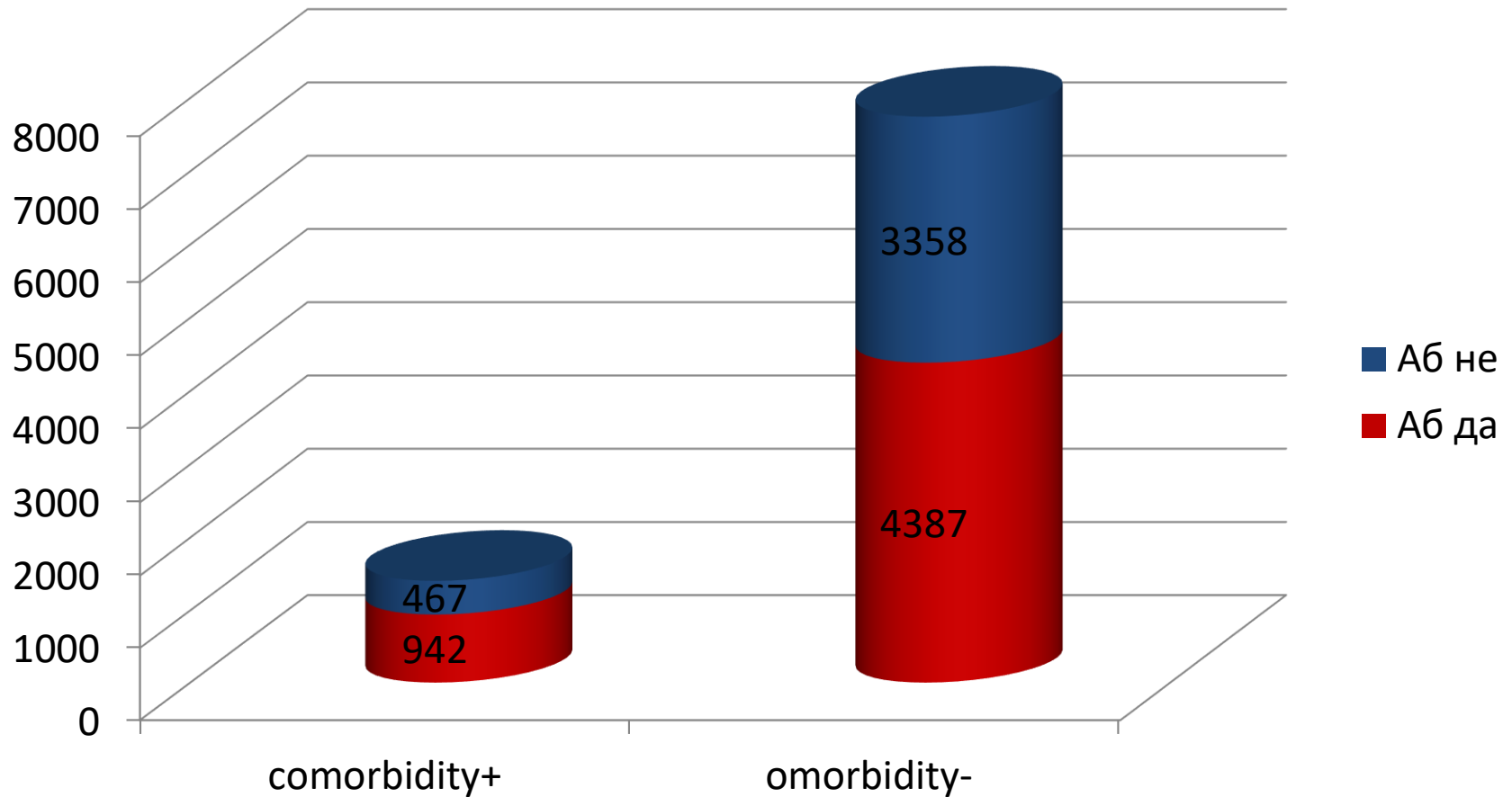
**13% fever, 88% Tonsylopharyngitis and
68% from Bronchitis treated with antibiotics**

Distribution by age



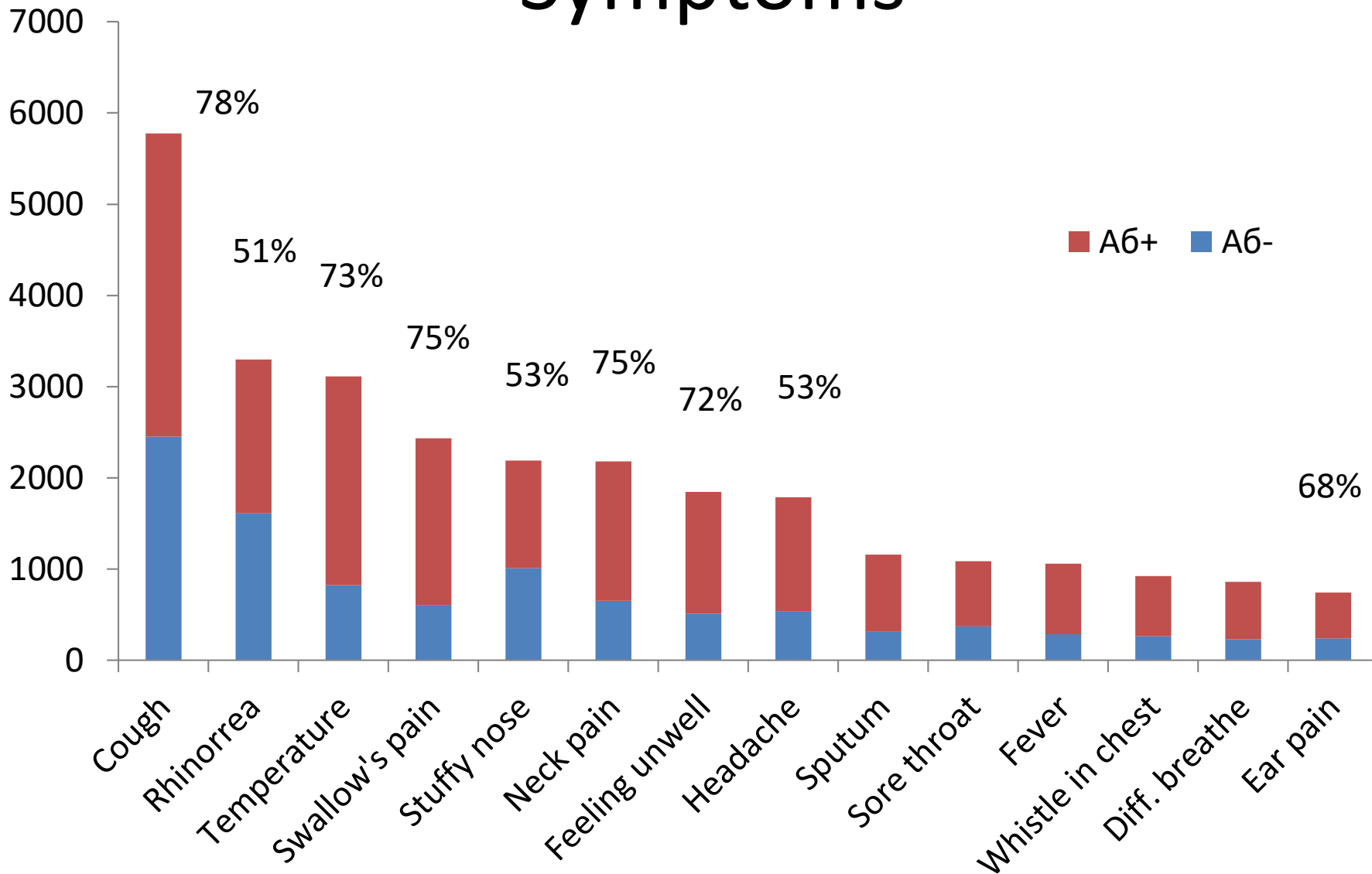
44% antibiotics is prescribed to the patients, aged 0-10 yrs

Comorbidity

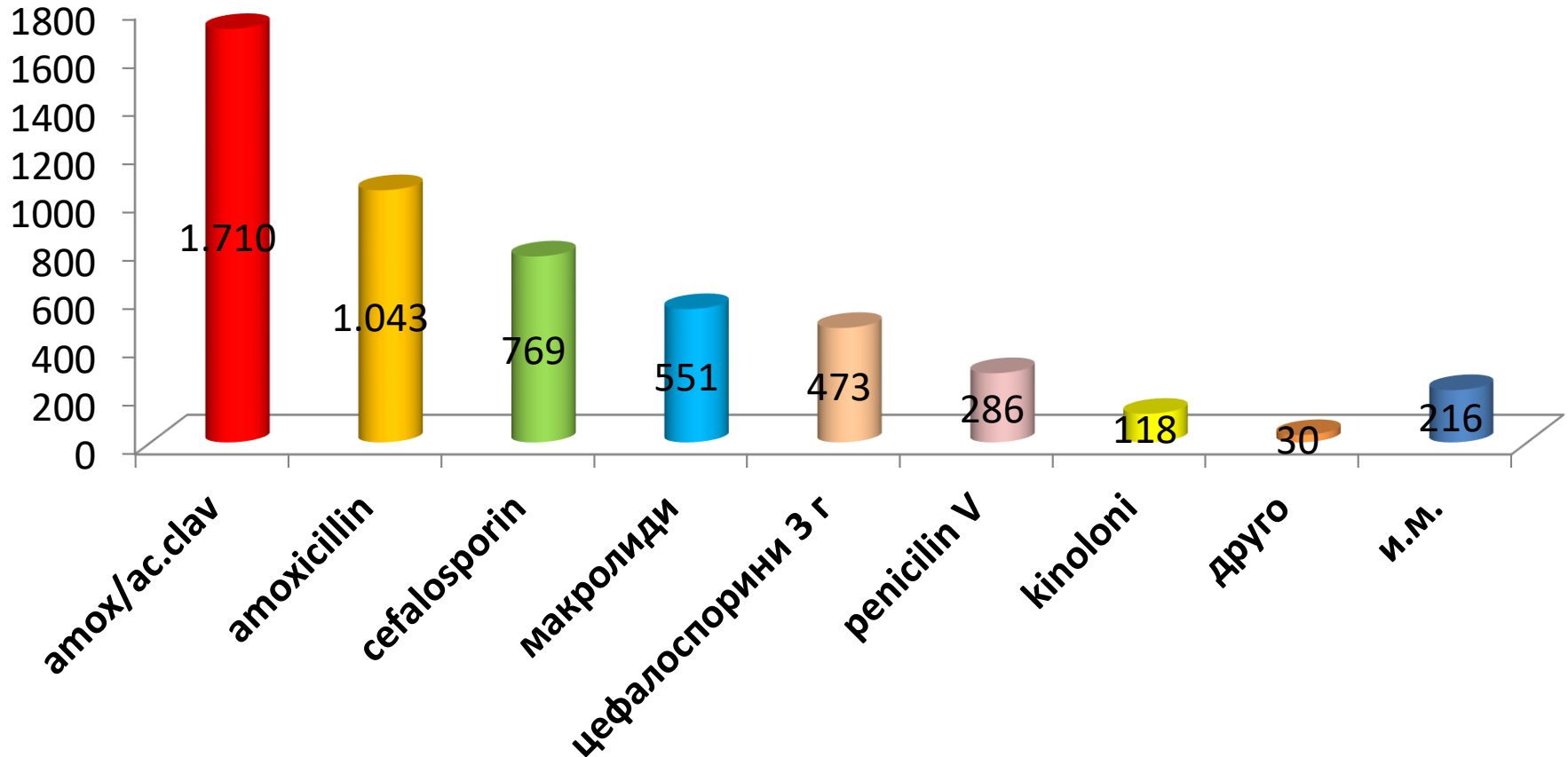


15.4% with comorbidity

Symptoms

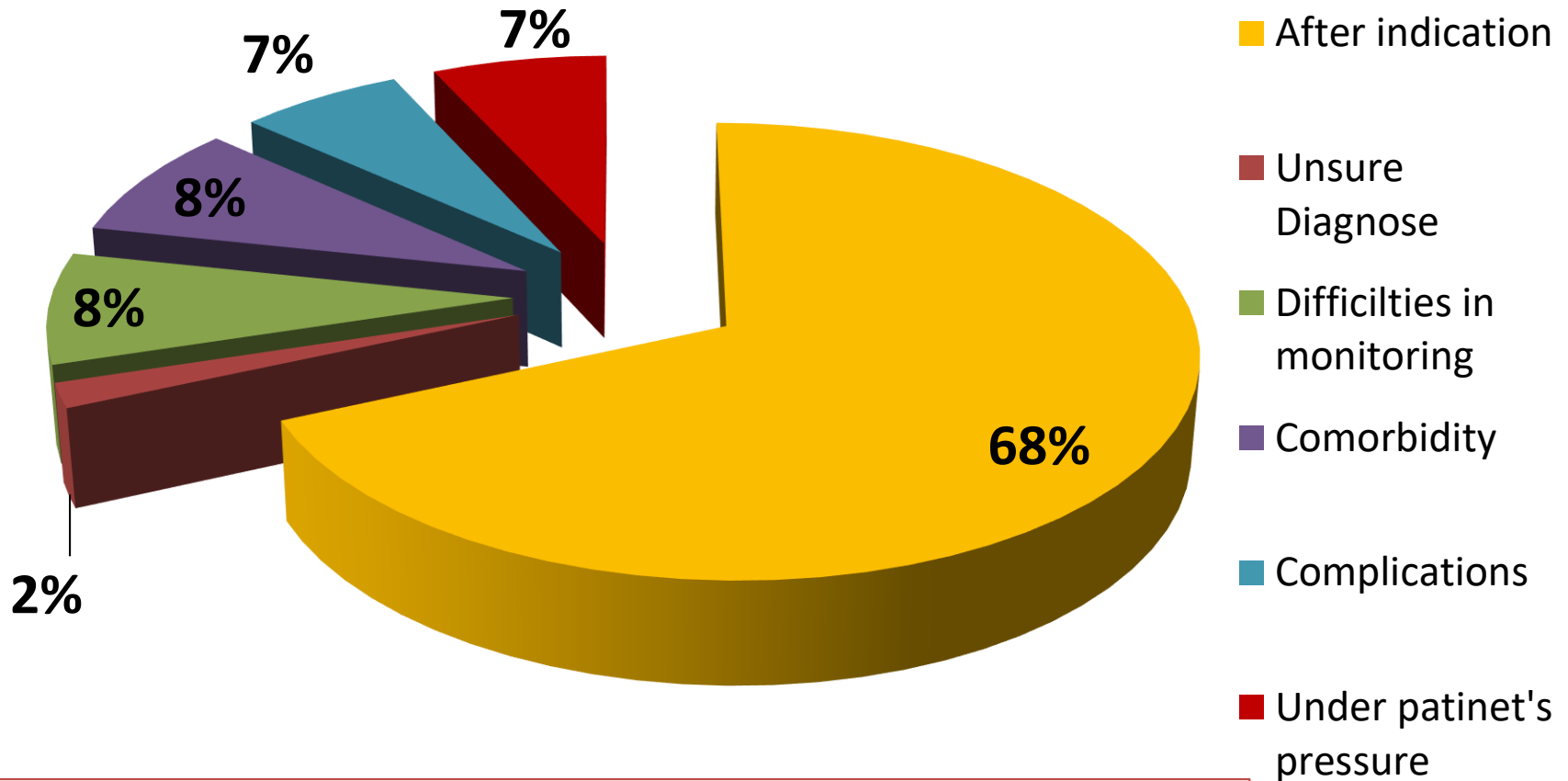


Type of the antibiotic



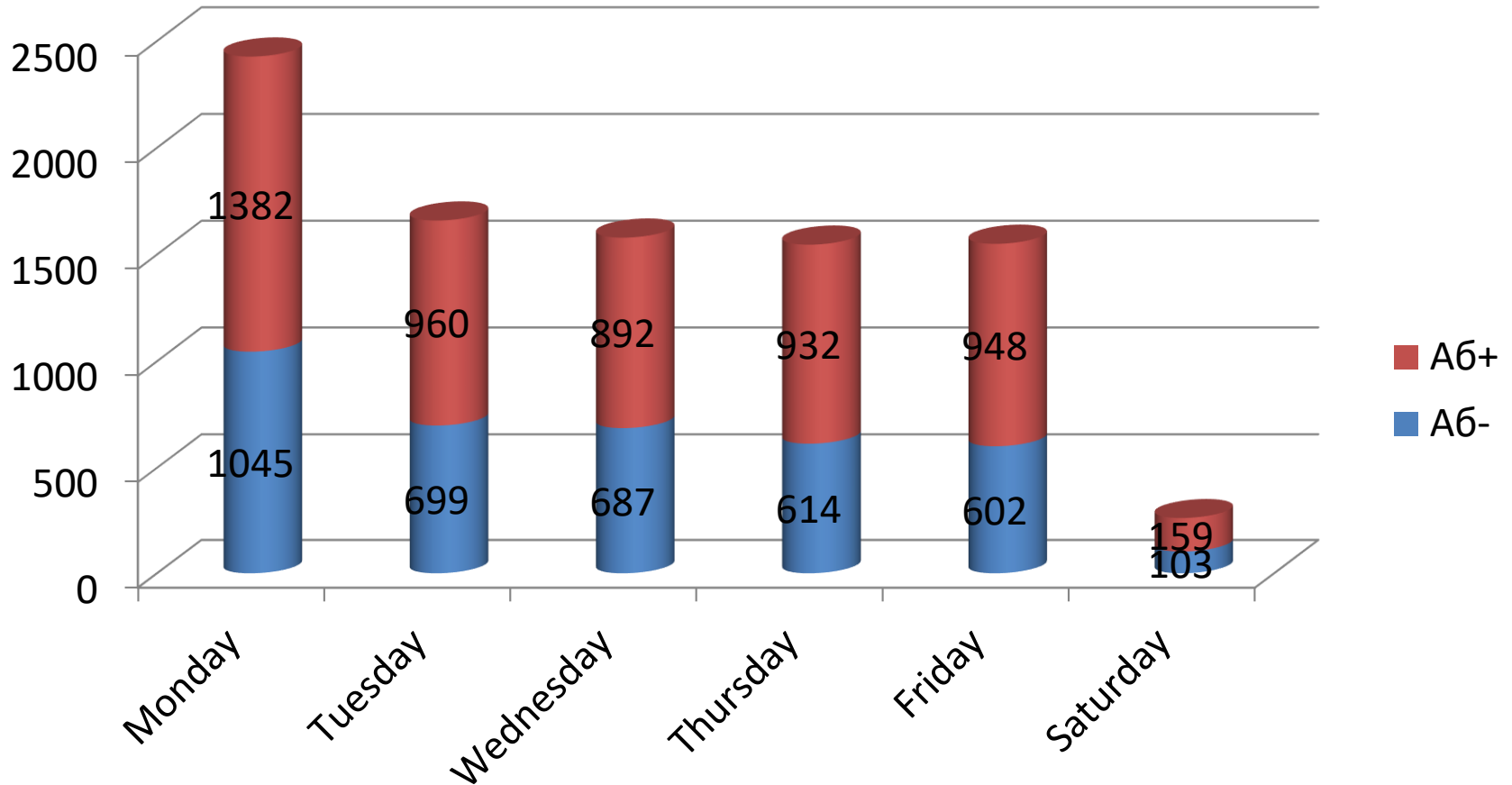
**33% amoxicillin/clavulonic acid, 11% macrolides, 9,1% cephalosporin's 3g,
5,5% penicillin B, 4,2% parenteral therapy**

The reason of prescribing antibiotics



7% under a pressure of patients
Previously bad experience/ important needing going to work

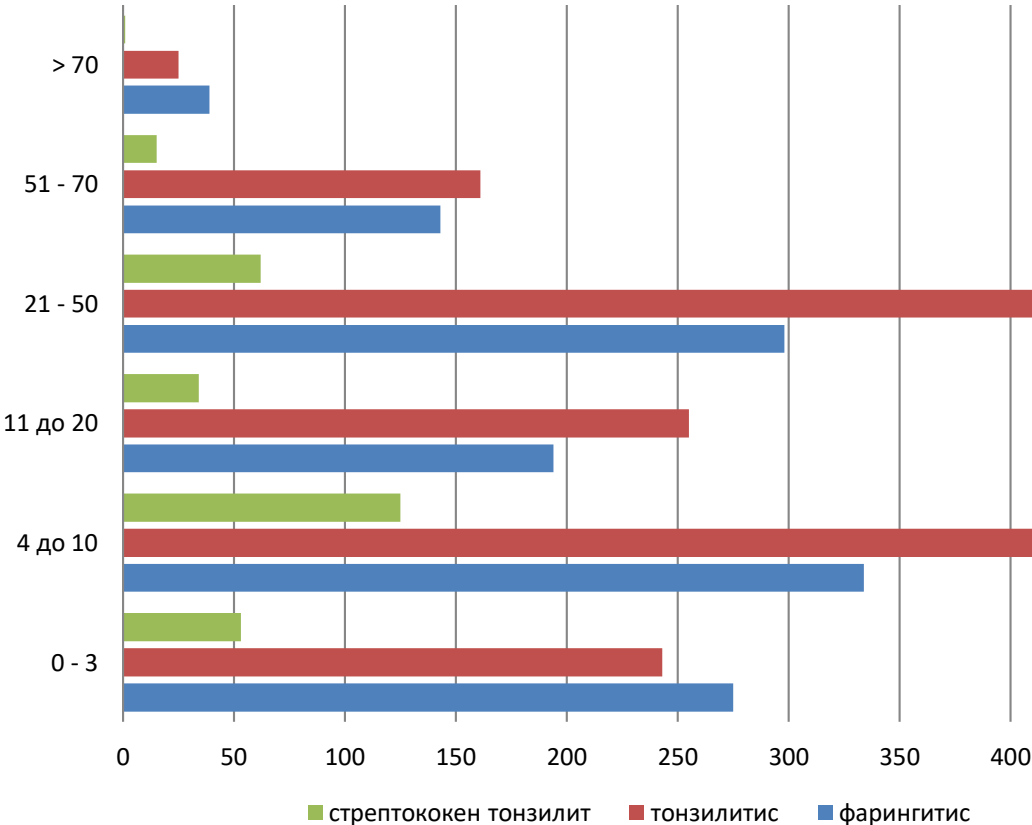
Day in week



**26% consultations were in Monday,
Most of the Antibiotics prescription are made in Friday 62%**

Acute tonsilopharyngitis

Age distribution

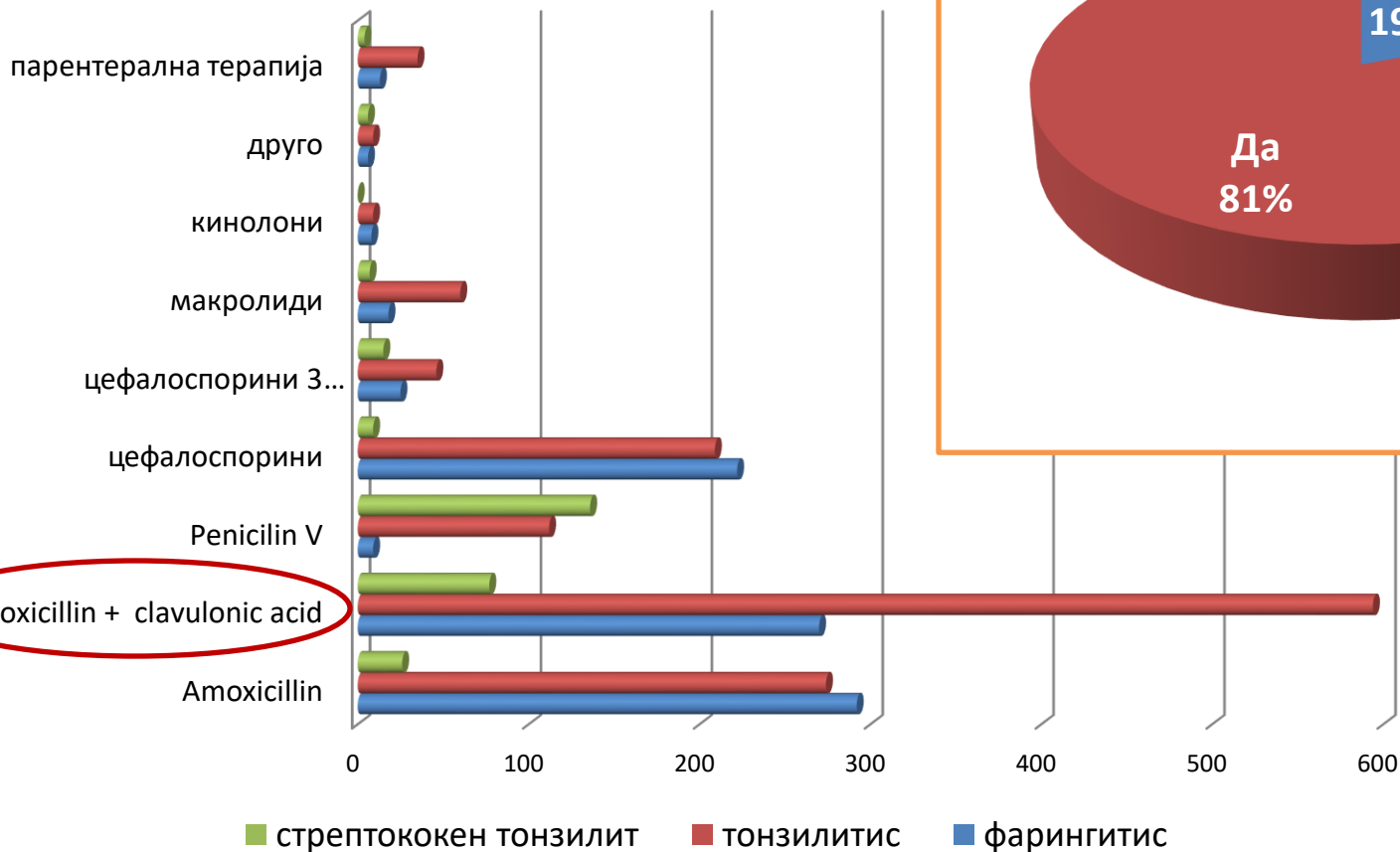


SYMPTOMS	%
Painful swollen	52.5
COUGH	50.8
Sore throat	41
Temperature	36
rhinorrea	31.1
Nose obstruction	19.7
Postnasal secret	15.3
Exudates on tonsils	12.4
Painful enlarged anterior lymph nodes	14.9

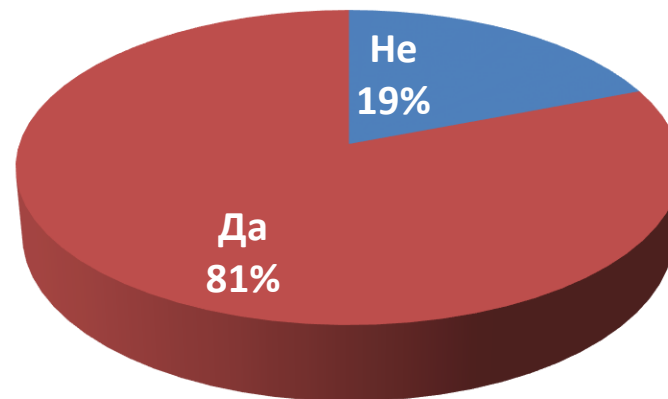
**63% 0-20 years old,
20% 0-3 years old
88% first visit
Average 3 days of symptoms**

Acute tonsilopharyngitis

Antibiotics



Prescribed antibiotic



Sore throat

Centor score	N patients	Patients %	A6 +	A6 -
-1/0	192	957 54%	165	27
1	303		265	38
2	462		402	60
3	437	713	394	43
4	276	40%	256	20
5	98	5.5%	89	9
	1768	100%	1571	197

832 patients (87,3%) with Centor score ≤ 2 unnecessary treated with antibiotics

40.3% have cough

650 patients A6+ strep test can help?

88.8% treated with Ab

Use of guidelines?

Guideline

- Sore throat by St. is rare in children younger than 3 years.
- **Antibiotic is indicated only in infection due to streptococcus pyogenes infection**
- **Centor score ≤ 2 symptomatic therapy**
- **Centor score > 3 - strep test**
- **Penicillin V 10 days**

Results

- **15% at age < 3 years**
- **51% cough**– viral infection
- **$\sim 70\%$ sore throat unnecessary treated with a **Ab** (Centor ≤ 2)**
- **Ab with broad spectrum**
- **Average 7 days treatment**

Intervention program

- Educational intervention group - 50 GP from the first survey (November 2014)
 - participation in the first survey
 - Workshops (2014)
 - Symposium (May 2015)
 - Intervention programme (September/October 2015)
- Control group - New 50 GP invited from each region

Intervention programme

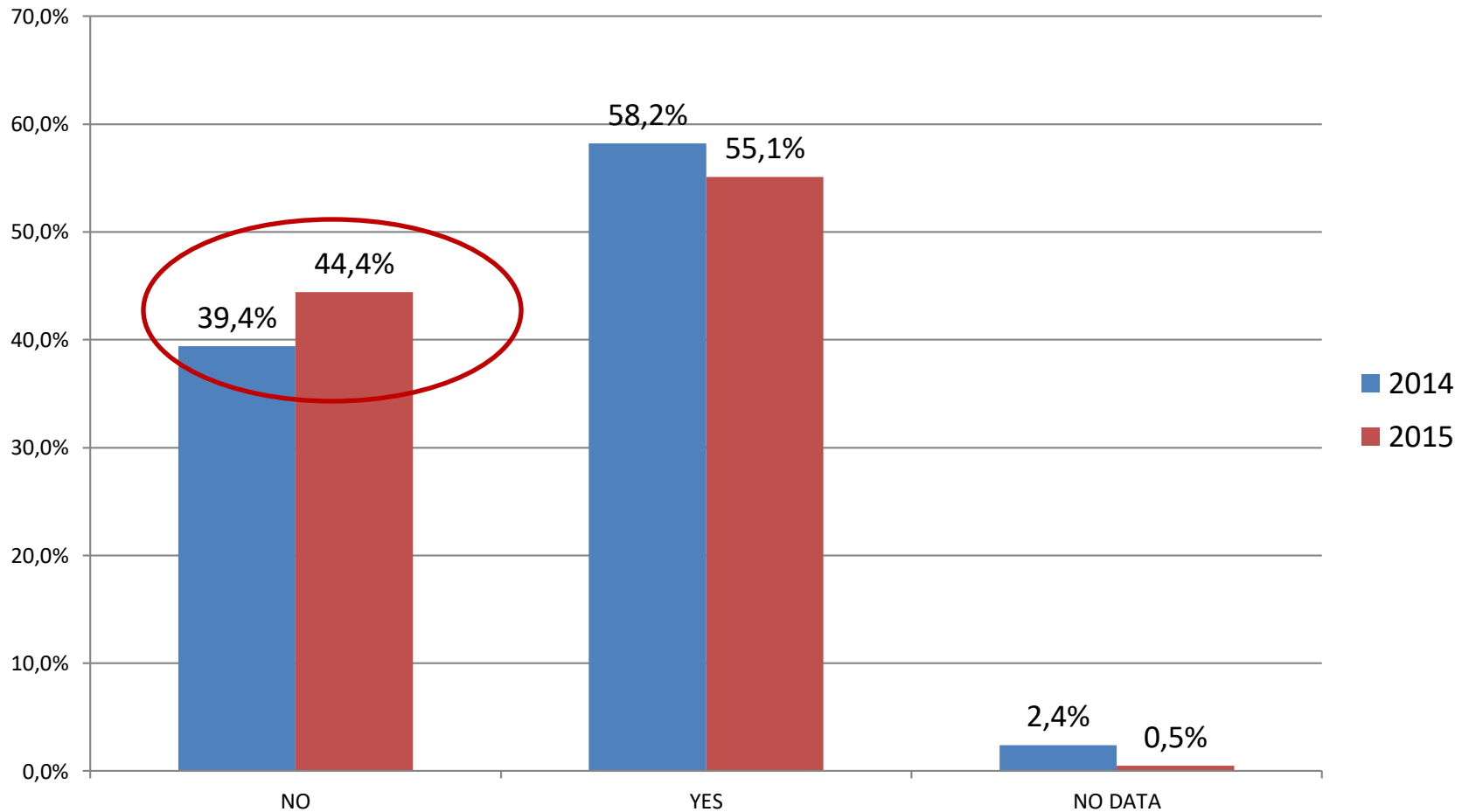
- One day educational workshop – (Bitola and Skopje)
- **Clinical guidelines** for tonsilopharyngitis and bronchitis
- **Access to Point of care tests:** (Strep A test and CRP)
- **Communication skills** doctor-patient (temperature and cough)
- **Web access to the materials**



Knowledge test

- “The duration of acute cough” is approximately 3 weeks (P=0,006)
- “A child who has recurrent cough without fever” should be referred to a specialist (P=0,035),
- “80% of children with AOM recover without AB treatment in 4 days” (P=0,018)
- “rest in bed, lot of liquids and symptomatic treatment for self-care” (p=0,025)

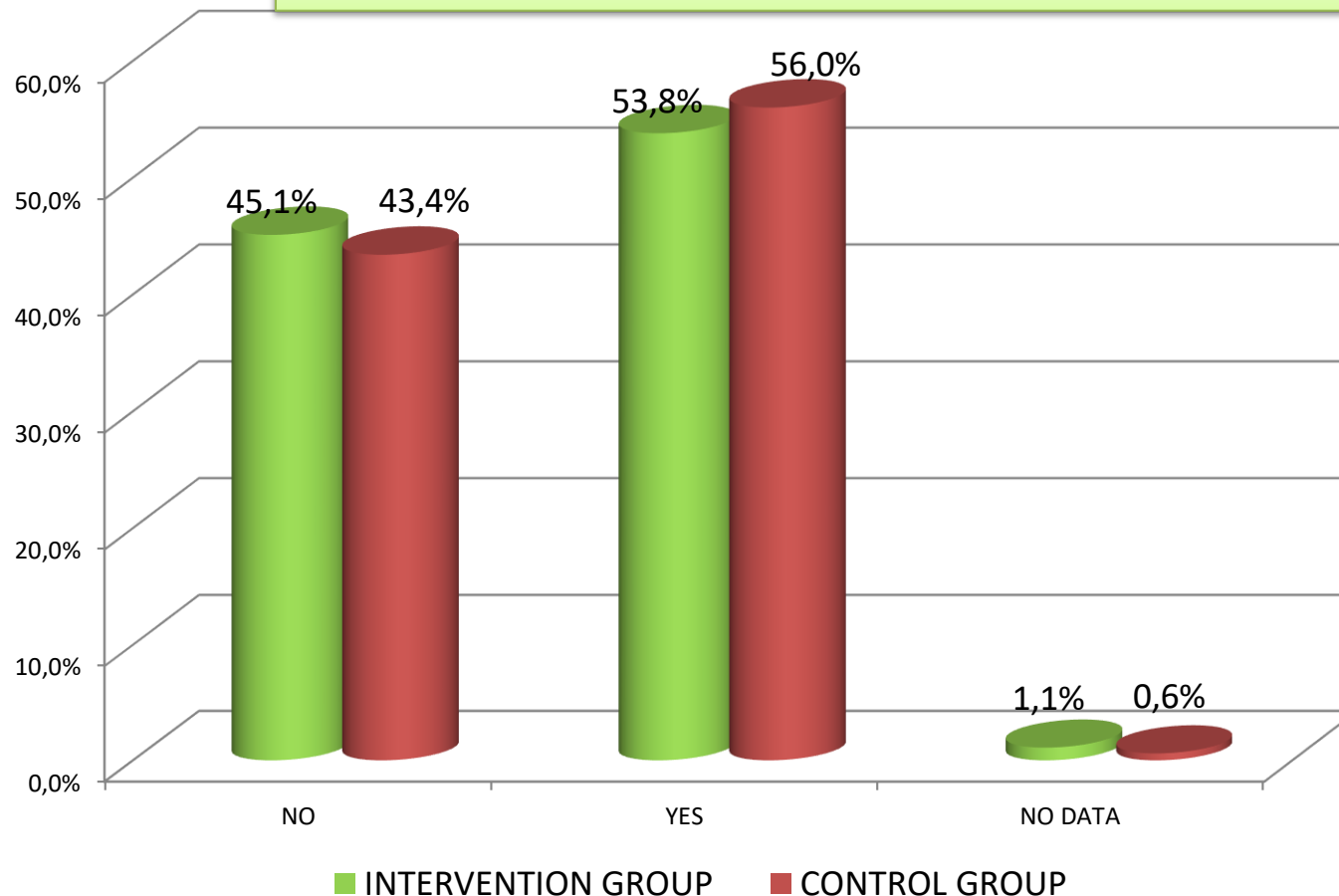
Prescription of antibiotics 2014/2015



3% reduction in prescription of antibiotics (NS)

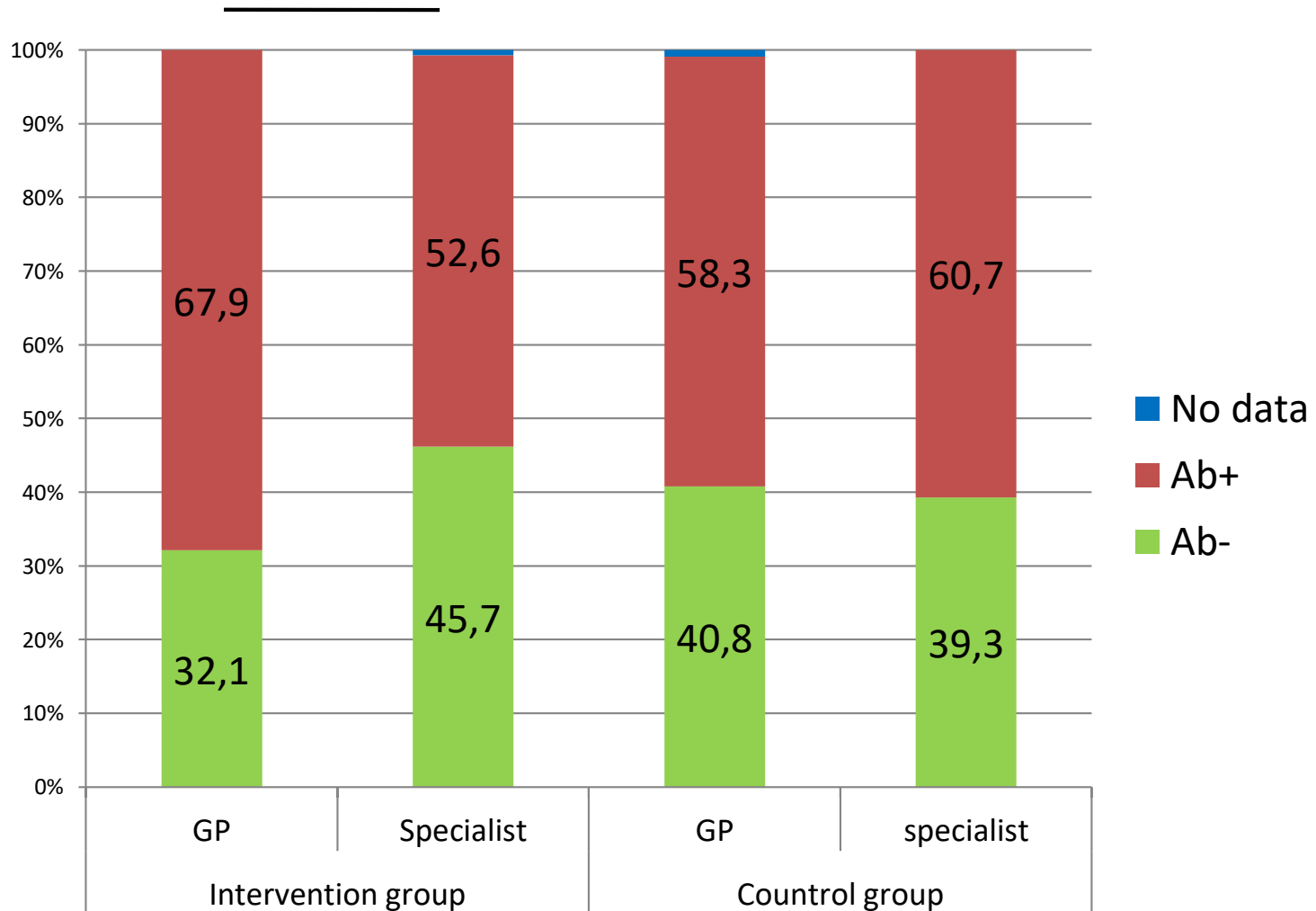
Prescription of antibiotics and intervention (2015)

2.2% reduction in antibiotic prescription (NS)

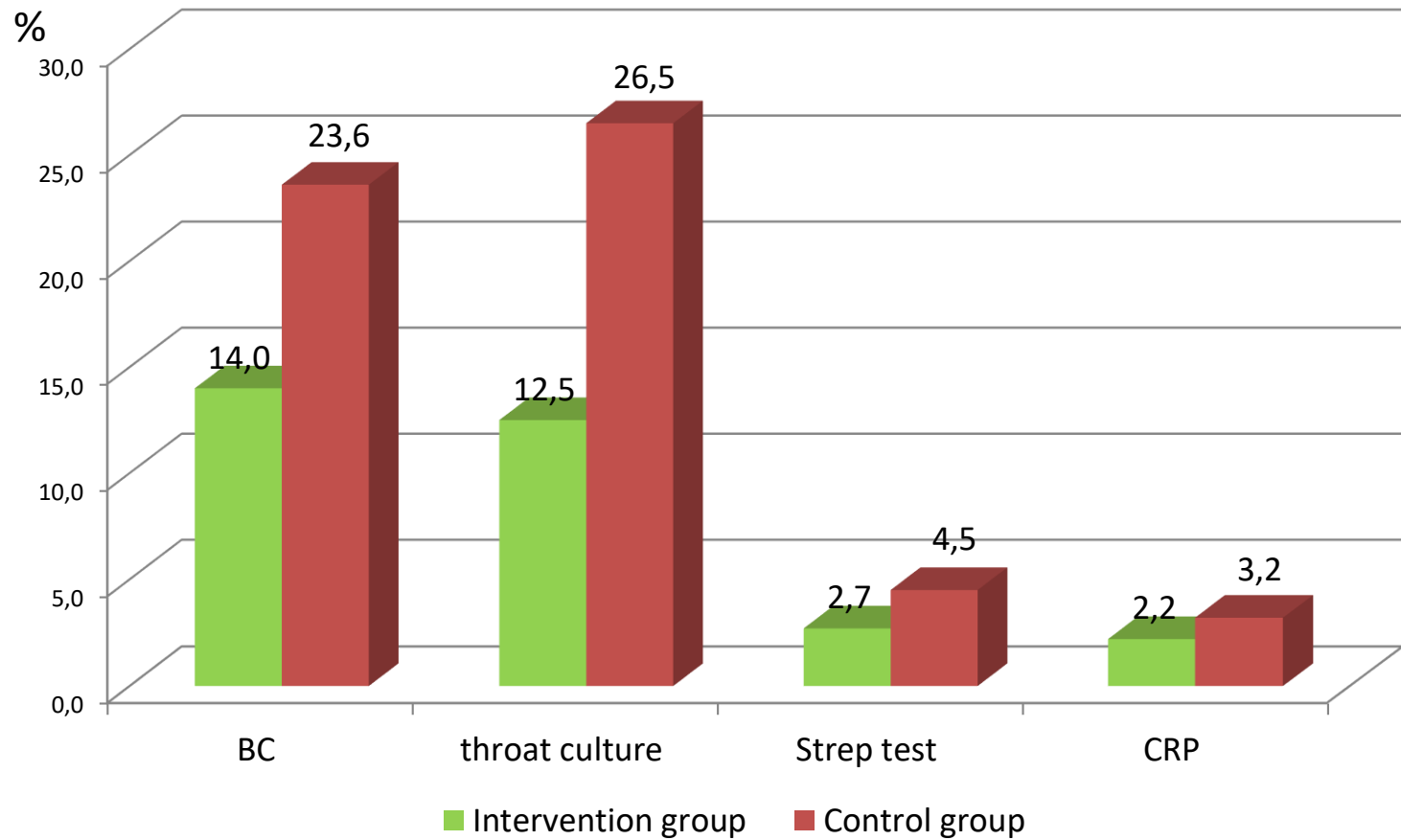


Specialization

13.6% reduction in antibiotic prescription (P<0.05)



Lab test



Conclusions

- Education alone result in non significant improvements in antibiotic prescribing
 - 2.2% reduction in antibiotics prescription for RTIs in *intervention group*
 - 3% reduction in antibiotics prescription for RTIs compared *2014/2015*
 - 13.6% reduction in antibiotics prescription for RTIs in *specialist in family medicine +CME*

Recommendations

- Educational intervention – **Yes – continuous (knowledge, skills, attitude)**
- Different educational methods

- **TEAM WORK - Educational strategies + other stewardship strategies** (patient education, appointment system, access to point of care, electronic system of antibiotic decision, national guidelines, multidisciplinary collaboration)

3th Symposium:
Rational prescribing of Antibiotics in primary care
November 2017

CONTINUITY
JOINT EFFORTS
INVOLVEMENT OF EVERYONE
= SUCCESS

