

**Conclusion:** Several possible reasons exist for the increase in emerging pathogens including increased use of antibiotics, identification of pathogens with selective media and molecular methods, and increased surveillance. Clinicians should remain alert to the possibility of this one or other new emerging pathogens in CF when there is a lack of response from routine treatment, especially in patients on chronic inhaled antibiotic regimen.

### P093

#### Influence between microbiological isolates, lung function and nutrition status in cystic fibrosis patients in a cystic fibrosis centre in the Institute for Respiratory Diseases in Children in Skopje, the Republic of Macedonia

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**Objectives:** CF patient's condition is mostly connected with their pulmonary exacerbation that depends of their microbiological isolates. Study determines way of correlation on bacteria or fungus in influences at patient's lung and nutrition status.

**Methods:** Study is evaluated on base of 40 CF patients from our CF center for last year. Patients were divided into 2 groups according to their age: children (0–18 years) and adults (over 18 years). We analyzed microbiological isolates from sputum and we follow the respiratory function with spirometry (FVC and FEV1). BMI result was calculated from their weight and height.

**Results:** *Pseudomonas aeruginosa* was found in 50% of children and 81.2% of adults. Average amount of children's group were BMI 16.47, FVC 53.1% and FEV1 49.08%, in adult's group calculation were BMI 20.9, FVC 72.88% and FEV1 52.42%. *Staphylococcus aureus*, was found in 50% of children and 31.25% of adults. Children's group average amount of BMI was 16.4, FVC 59.5 and FEV1 55.97, adult's group BMI was 22.7, FVC 87% and FEV1 64.2%. MRSA was found in 37.5% of children and 25% of adults. Children's group average amount of BMI was 15.8, FVC 51.3 and FEV1 44.4, adult's group BMI 21.55, FVC 85.98% and FEV1 63.7%. *Burkholderia cepacea* was isolate only in children's group with 8.3%, for them average amount of BMI was 16.15, FVC 33.7% and FEV1 27.3%. *Stenotrophomonas maltophilia* was found in 4.16% in children and 6.25% of adults. Average amount of children's group of BMI was 16, FVC 90% and FEV1 76%, for adult's group BMI was 14.7, FVC 49% and FEV1 23%. *Aspergillus* was found in 8.33% of children and 31.25% of adults. Children's group average amount of BMI was 17.5, FVC 100% and FEV1 93.5%, adult's group BMI was 21.6, FVC 78.7% and FEV1 54.6%

**Conclusion:** *Burkholderia cepacea* as microbiological isolate impacts children's group in lowest range for spirometry and BMI, otherwise *Stenotrophomonas maltophilia* as microbiological isolate in sputum has worst influence in adult group for the same parameters.

**Table:** (abstract: P095)  
Results

Siblings	Time spent together (hrs)	Physiotherapy together?	Shared positive samples	Individual positive samples
Sibling pair 1	1–2	Occasionally together.	Staph aureus, Haem influenza	<i>Pseudomonas</i> , <i>Aspergillus</i> , <i>Achromobacter</i>
Sibling pair 2	>4	Same room, consecutive	Staph aureus	<i>Aspergillus</i> , Haem
Sibling pair 3	2–4	Same room, same time	Staph aureus, Haem influenza	nil
Sibling pair 4	>4	Same room occasionally together	<i>Pseudomonas aeruginosa</i> , <i>Staph aureus</i> , <i>Aspergillus</i> , Haem influenza	<i>Achromobacter</i>
Family (4 siblings)	>4	Same room, same time	Haem influenza (4), <i>Pseudomonas aeruginosa</i> (2), <i>Staph aureus</i> (3), MRSA (2), <i>Achromobacter</i> (2)	<i>Aspergillus</i>

### P094

#### Relationship between microbiological isolates from sputum and age of cystic fibrosis patients in the Cystic Fibrosis Centre at the Institute for Respiratory Diseases in Children in Skopje, the Republic of Macedonia

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**Background:** CF patients have diversity in microbiological findings in sputum and this study is aimed to determine its relationship with age of CF patients.

**Material and Methods:** We reviewed histories of 40 CF patients (mean age 16,2 years), 17 male (42,5%) and 23 female (57,5%), who are followed in CF Center in the Institute for respiratory diseases in children in Skopje, Republic of Macedonia, over 12 month period from 1 January to 31 December 2018. Patients were divided into 3 groups according to their age: children (0–12 years, mean age 6,79 years), adolescents (12–18 years, mean age 13,4 years) and adults (over 18 years, mean age 28,25 years). We analyzed microbiological isolates from sputum detected with Disc diffusion method and Vitek identification.

**Results:** 40 patients had at least 1 positive microbiological isolate from sputum (8 patients-20% with 1 positive isolate, 15 patients-37,5% with 2 positive isolates, 13 patients-32,5% with 3 positive isolates and 4 patients-10% with 4 or 5 positive isolates). *Pseudomonas aeruginosa* was found in 62,5% (in 52,0% of all patients are in adult group), *Staphylococcus aureus* in 42,5% (in 53% of all patients are in children), MRSA in 32,5% (in 46,2% of all patients are in children), *Burkholderia cepacia* in 5% (equally in children and adolescents), *Stenotrophomonas maltophilia* in 5% (in children and adults), *Aspergillus* in 17,5% (in 71,4% of all patients are in adults) and *Candida* in 72,5% (equally presented in children and adults).

**Conclusion:** *Staphylococcus aureus* and MRSA are most frequently found in children. *Pseudomonas aeruginosa* and *Aspergillus* are most common isolated pathogens in adults.

### P095

#### Siblings and positive respiratory samples

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**Objectives:** To analyse positive respiratory microbiology samples in sibling pairs and groups in the context of time spent together thereby identifying shared organisms or isolated positive organisms.

**Methods:** To analyse positive respiratory samples (including cough swabs, cough plates, sputum and bronchoalveolar lavage samples) in 5 sibling groups (a total of 12 children) in terms of timing of isolation, possibility of cross-infection in the context of time spent together.

#### Results:

The timing of shared positive isolates within siblings was often months to years apart therefore making the temporal relationship and cross infection rates difficult to interpret.

**Conclusion:** The risk of cross-infection is significant in sibling groups given time spent together, which may include airway clearance treatments;