

## Rehabilitation and Nursing Homes with Elderly and Homeless Population, Lessons not only for Physiotherapy but also for Epidemiology?

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Original Article

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### Abstract:

**Background:** Infections occur frequently in nursing home residents, mainly pneumonia, UTI and SSTI, usually requiring empirical

antimicrobial treatment in an hypo-immune population, which contribute to the increasing frequency of antimicrobial agent-resistant organisms in nursing homes.

**Patients and methods:** We did oropharyngeal swabs of residents of long-term facilities to detect their potential contamination with resistant pathogens in three nursing homes in Bratislava.

**Results:** Multi-resistant pathogens were recorded in total of 71 clients, but only 5 (10%) were positive for gram-negative bacteria, however, in all, multi-resistant bacteria/yeast were obtained.

**Conclusions:** Monthly surveillance cultures, but also admission cultures, not only rectal, but also from respiratory tract are advisable.

## Introduction

Rehabilitation and nursing homes are increasing in numbers, both in Europe and in US due to the risen life expectancy. Infections occur frequently in nursing home residents. The most common infections are pneumonia, urinary tract infection, and skin and soft tissue infection (SSTI). Aging-associated physiologic and pathologic changes, functional disability, institutionalization, and invasive procedures and devices all contribute to the high occurrence of infection. Antimicrobial agents used in nursing homes are usually empiric. All of these factors contribute to the increasing frequency of antimicrobial agent-resistant organisms in nursing homes.

## Patients and Methods

In this pilot one-day point of prevalence study we did oropharyngeal swabs of 72 residents of long-term facilities to detect their potential contamination with resistant pathogens. Study was conducted on 21st August 2018.

## Results

Multi-resistant pathogens were recorded in 3 facilities with a capacity of 22, 24 and 25 clients, but only 5 (10%) were positive for bacteria, however, in all, multi-resistant bacteria/yeast were obtained. In one of the

last issues of Lancet (2), the authors highlighted the increase of parasitic infections among elderly residents in a nursing/rehab facility. There are little data on studies for elderly/homeless or nursing facilities on colonization with multi-resistant pathogens. Everybody however, will expect more gram-negative bacilli (Enterobacteriaceae) or Enterococci due to the decreased hygiene and morbidity. We have observed multi-resistant streptococci (MRSA) and azole-resistant *Candida* spp., what is a surprising finding in this group of hypo-immune patients.

## Conclusion

MRSA and fluconazole-resistant *Candida* spp. were the major pathogens of the respiratory tract of hypomobile elderly residents of rehabilitation/nursing homes in Bratislava. Therefore, not only monthly surveillance cultures, but also admission cultures, not only rectal, but also from respiratory tract are advisable.

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