

# MICROBIAL CONTAMINATION OF ENVIRONMENTAL SAMPLES FROM THE REGIONAL HOSPITAL OF KORCA, ALBANIA

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## ABSTRACT

### Background:

Nosocomial infections are a major world public health problem. Infectious agents transmitted during healthcare derive primarily from human sources but inanimate environmental sources also are implicated in transmission. Most of these infections can be prevented with readily available, relatively inexpensive strategies by: adhering to recommended infection prevention practices.

### Objective:

The purpose of this study is to estimate the microbiological pollution levels of samples taken from the environments of the Regional Hospital of Korca, Albania.

### Methodology:

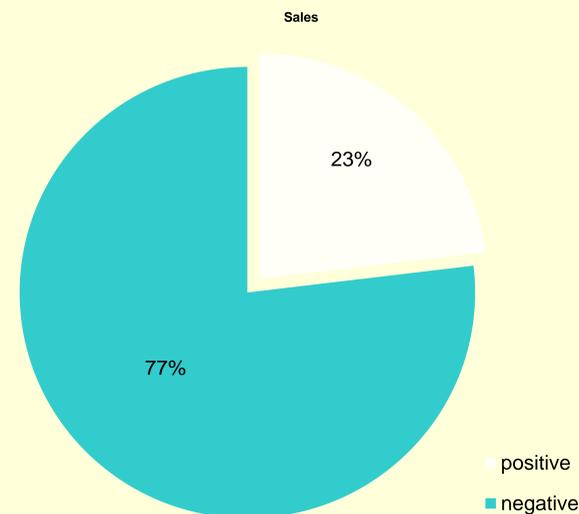
This is a study of the potential bacterial reservoirs in the Hospital of Korca. A total of 1701 samples were taken from different wards of the hospital. 316 samples were taken from the sterilized materials, 184 samples from the laundries, 238 samples from the healthcare workers, 640 samples from the surfaces, 135 samples from air and 188 samples from the systems of intubation-aspiration-oxygen.

The examinations of sterilized materials, laundries, systems of aspiration-intubation-oxygen and healthcare workers were done with simple Bujon ground, cultured on Blood, Sabouro, Endo agar and incubated for 24hrs at 37°C Surfaces examinations were done with Blood and Sabouro agar and incubated for 24hrs at 37°C. Air examinations were done by the method of sedimentation in Petri dishes on Blood and Sabouro agar for 10-20 min, than incubated for 24hrs at 37°C The microbial identification was done with microscopy after Gram coloration, colonies morphology and biochemistry.

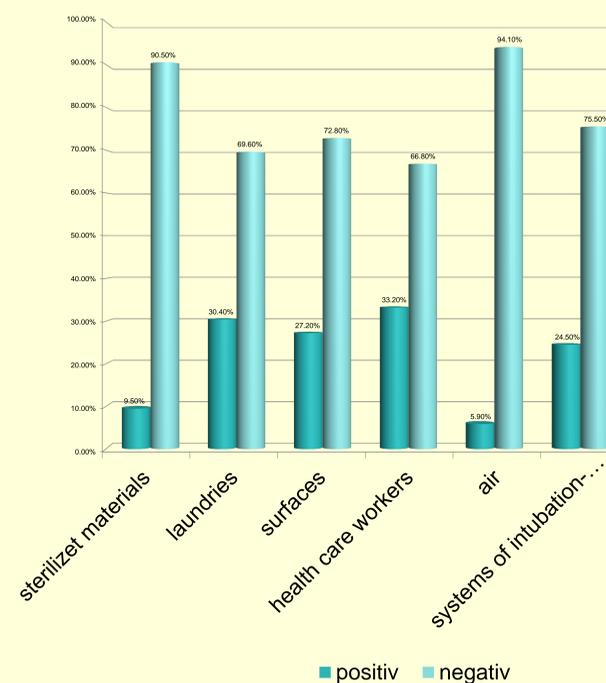
## RESULTS

- -Resulted positive 393 (23.1%) cultures from the total of 1701 samples.
- -Resulted positive for microbial contamination:
  - 30 (9.5%) of samples taken from the sterilized materials
  - 56 (30.4%) of samples from the laundries
  - 79 (33.2%) of samples from healthcare workers
  - 174 (27.2%) of samples from the surfaces
  - 8(5.9%) of samples from air
  - 46 (24.5%) of samples from the systems of intubation-aspiration-oxygen.

•Figure 1. Percentage of positive and negative isolates



•Figure 2. Percentage of positive and negative samples



## CONCLUSIONS

- The microbial population of samples from the environment of the Hospital of Korca is of medium level (23.1%).
- Samples with higher percentage of microbial contamination resulted from the samples of health care workers (33.2%).
- -Samples with lower percentage of microbial contamination resulted from the samples from air (5.9%).

## •RECOMMENDATIONS:

- Health care workers must be sensitized on public health risk of nosocomial infections associated with their contaminated hands, clothing and nose-throat.
- They must be educated about the importance of ensuring that the hospital environment is clean and that opportunities for microbial contamination are minimized.

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