Water Safety in the operating rooms:

benefits of using filters to prevent microbial contamination

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Background:

The hospital has 1.368 in-patient beds and 7 large operating room wards, in which numerous risk factors of infection can be present,

including water contamination.

the water may constitute a source of infections caused by opportunistic pathogens, including **Pseudomonas aeruginosa,** **Legionella**, etc.

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Materials/Methods:

- The water is regularly monitored by the research of Legionella, Escherichia Coli, Enterococci, Staphylococci,, Pseudomonas Aeruginosa, total bacterial contamination.
- Despite chlorination, we found microbes in the water for surgical hand washing, more frequently Pseudomonas aeruginosa but also Legionella.
- We used the terminal antibacterial filters for several years in preventing contamination of the water in the Intensive care unit.
- The hospital multidisciplinary team for the prevention of waterborne microorganisms, to solve the problem, decided to applie 103 antibacterial terminal filters on the tap for surgical hand washing.

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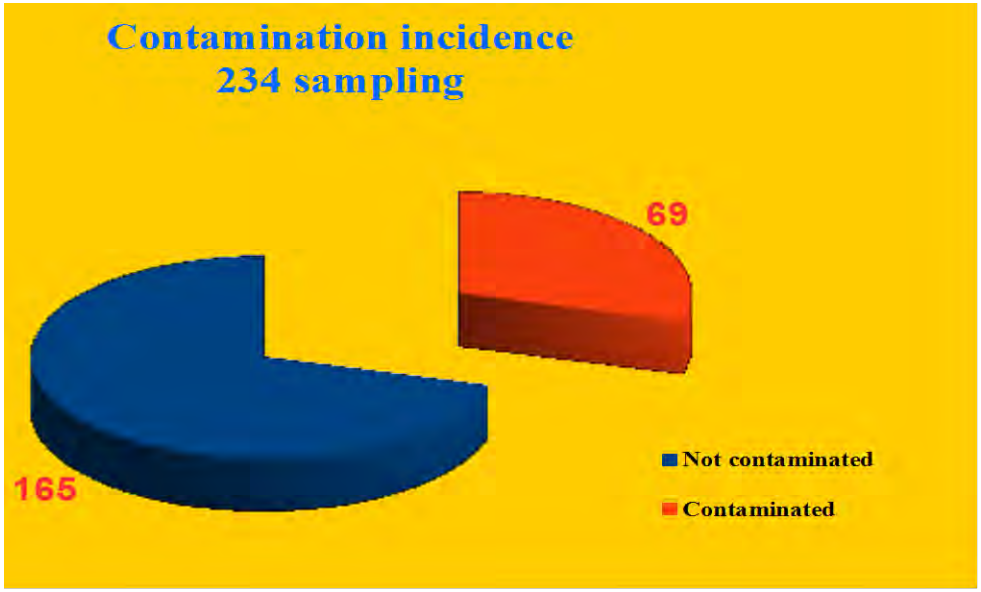

- **Results:**

The filters **guarantee safe water microorganisms free.**

The good performance of the antibacterial filters allowed the **reduction of periodical microbiological testing** with a consequent reduction of the sampling and analyzes costs.
We had also organizational advantages: **reduction of impossible use of taps** due to maintenance work and disinfection, r**eduction of access by external operators**, that causes discomfort.

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Conclusion:

- The terminal antibacterial filters installed in the operating rooms are **effective in the prevention of contaminations** by Pseudomonas Aeruginosa, Legionella pneumophila, and other microorganisms. **The daily costs of the filtration is counterbalanced by the reduction of maintenance work and the reduction of controls**