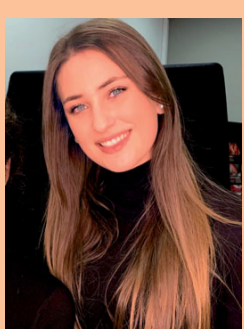


Search for *Staphylococcus aureus* on surfaces of the equipment of dental medicine

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Introduction and Purpose *Staphylococcus aureus* is considered one of the Gram-positive bacteria most frequently isolated in the community and in the hospital environment, being associated with several infections. Multidrug-resistant strains (Methicillin-resistant *Staphylococcus aureus* - MRSA) represent one of the major causes of nosocomial infections worldwide, leading to high mortality rates. Different surfaces of dental medicine equipment were analysed to evaluate the presence of methicillin-sensitive *Staphylococcus aureus* (MSSA) and/or MRSA.

Methodology

354 Samples were collected with Copon Liquid Amies Elution eSwab swabs (Fig. 2) from six dental medicine equipment surfaces (Fig. 1; light, dental spittoon, table, headboard, chair arm rest, air/water syringe) in different areas of clinical attendance before and after patient care (Fig. 3) and cultured in chromID® MRSA/chromID *S. aureus* selective medium (Fig. 2). MRSA/MSSA strains were confirmed by PCR on the *mecA* gene.

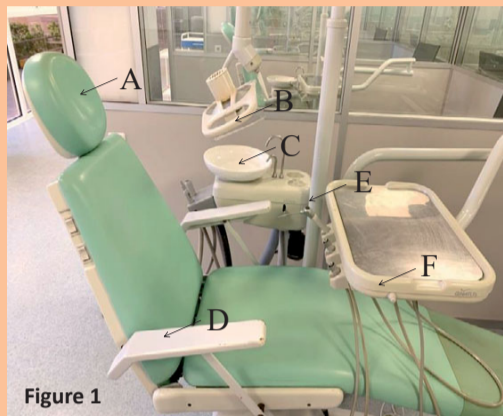


Figure 1
A- headboard; B- light; C- dental spittoon;
D- chair arm rest; E- air/water syringe;
F- table

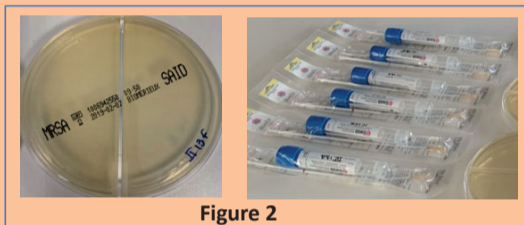
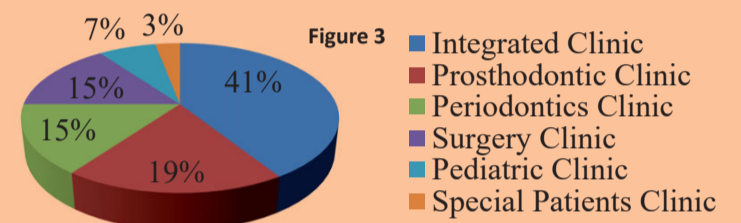
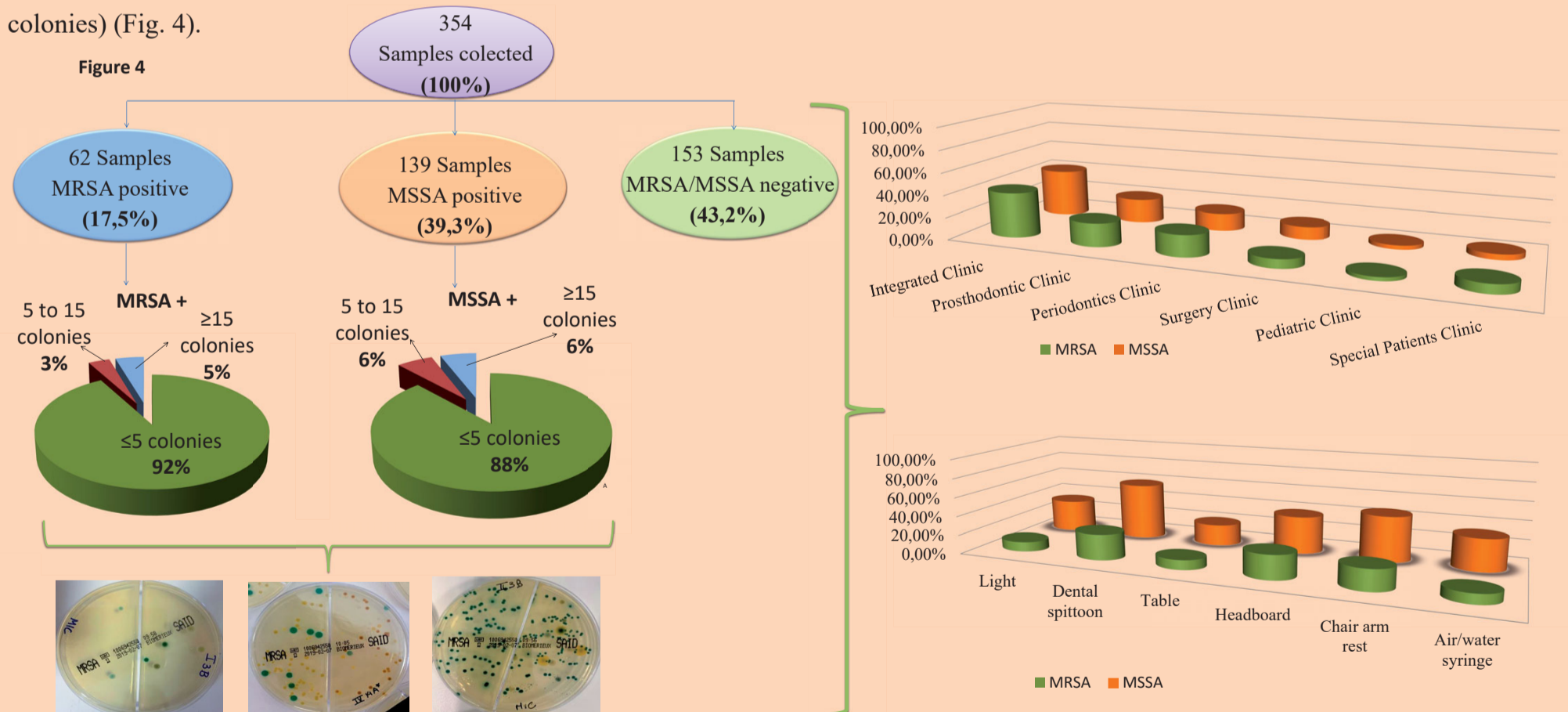


Figure 2



Results The total contaminated percentage was MRSA – 17.5% and MSSA – 39.3%. Of the MRSA contaminated samples 6.1% are before patient care and 11.4% after. Of the MSSA contaminated samples 14.1% are before patient care and 25.2% after. These results show that the prevalence of MRSA/MSSA was significantly higher after patient care. Integrated Clinic represents the attendance area with greater contamination (MRSA – 40.3%, MSSA – 42.4%). The dental spittoon (MRSA – 27.1%; MSSA – 59.3%) represents the most contaminated clinical surface, followed by the chair arm rest and the headboard. Most contaminated samples had a low level of contamination (below 5 colonies) (Fig. 4).



Conclusion Dental equipments can be reservoirs for the transmission of MRSA/MSSA, contributing to potential nosocomial infections as well as cross-infections. Moreover, patients are a possible gateway for these bacteria. However, disinfection protocols applied in these clinics seem to be sufficient for the control of infection with these microorganisms.

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