

## View Abstract

**CONTROL ID:** 3966974

**TITLE:** Morning and afternoon microbial load of air in various sections of a Dental Faculty.

**PREFERRED PRESENTATION TYPE:** Oral and Poster

**CURRENT SCIENTIFIC GROUPS & NETWORKS:** Clinical and Translational Science Network

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**ABSTRACT BODY:**

**Objectives:** Determine if there is a difference between the microbial load in the air between various areas in the morning and afternoon samples.

**Methods:** Air measurements were recorded in the morning and afternoon triplicate with a Biotest RCS Active Air Sampler air sampling device. The colony-forming units formed on the agar plate of the air sampler after incubation for 24 hours. The average rotation frequency of the RCS was 4096 RPM with an accuracy of +/-2%. The areas in the dental faculty assessed were the Paedo, Max Fac, Instrument sterilization, burs sterilization, service rendering, Outside air as the positive control.

**Results:** Outside Control Morning (354.125 CFU/m<sup>3</sup>) is much higher than the Control of the afternoon (91.625 CFU/m<sup>3</sup>). The Service rendering morning (366.625 CFU/m<sup>3</sup>) is much higher than the afternoon (95.75 CFU/m<sup>3</sup>). The Paedo Clinic in the morning (362.5 CFU/m<sup>3</sup>) is comparatively much higher than the afternoon samples of 62.5 CFU/m<sup>3</sup>. Lastly, the Max Fac clinic samples taken in the morning (337.5 CFU/m<sup>3</sup>) is also comparatively higher than the afternoon figure of 141.625 CFU/m<sup>3</sup>.

**Conclusions:** Results obtained in the morning reveal the Sterilization department to be closest to falling the ACGIH's low category. The measured 104.125 CFU/m<sup>3</sup> is marginally greater than the <100 CFU/m<sup>3</sup> threshold. If the amount of staff and continuous movement of students is taken into account, this value is acceptable. The morning samples for service rendering (366.625 CFU/m<sup>3</sup>), paediatrics (362.5 CFU/m<sup>3</sup>), oral surgery (337.5 CFU/m<sup>3</sup>) and conservative dentistry (245.75 CFU/m<sup>3</sup>) clinics fall firmly into the intermediate category, and is fairly similar to the outside control sample (354,125 CFU/m<sup>3</sup>). During sampling the service rendering department had 50 patients present, oral surgery 8, and the paediatric department 2. These samples are slightly alarming, seeing as they are taken in areas where invasive procedures are performed, and instruments are in constant contact with bioaerosols as they are packed out on surfaces. In such a clinical environment, it is of utmost importance to have adequate ventilation and re-circulated air microbial decontamination like HEPA filters and UVC.

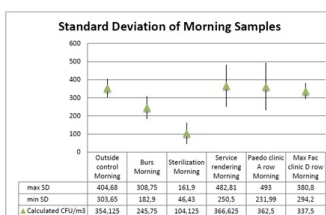
Limitations of the study

Further microbial targeting in these settings is advised to distinguish between "dental-related" microbes and "normal" air microbes.

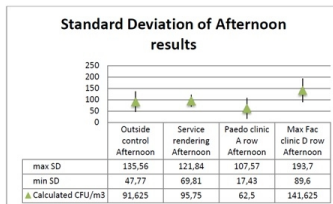
**TABLE TITLE:** (No Tables)

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**TABLE FOOTER:** (No Tables)



Morning samples of air microbial load



Afternoon samples of air microbial load

**IMAGE CAPTION:**

Morning samples of air microbial load

Afternoon samples of air microbial load

**KEYWORDS:** Air contamination, Microbial load, Dental clinics, Colony forming units, Air conditioner.

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