

**TITLE:** MICROBIAL PREVALENCE OF EYE INFECTIONS IN PATIENTS ATTENDED AT THE UNIVERSITY HOSPITAL ONOFRE LOPES, NATAL-RN

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**ABSTRACT:**

The human eye is frequently susceptible to infections on its surface, either by imbalance of the normal microbiota or by the acquisition of exogenous microorganisms, as well as by a deficiency of the ocular immune system. The treatment of ocular lesions is currently based on the use of broad-spectrum antimicrobials, but some species may acquire resistance, which makes it difficult to treat these infections. The objective of this study was to perform a retrospective analysis of the individual data (age and gender) and the microbiological diagnosis of ocular infections in patients attended at the Onofre Lopes University Hospital between 2016 and 2017. Was evaluated the prevalence of the isolated agents, the type of clinical specimen, as well as the analysis of the antimicrobial susceptibility profile used in the routine treatment were evaluated. Information on 190 patients was organized and compiled into a Microsoft® Office® Excel worksheet, and then subjected to statistical analysis using the Chi-square test. It was verified that the majority of the individuals who presented eye infections were in the age group 25 and 49 years, being the majority (65%) of the male gender. Among the microorganisms found, 58% were bacteria, and 42% fungi. Among the Gram-negative bacteria, the most prevalent were those of the genus *Pseudomonas* spp. found in 44.8% of bacterial infections. Among filamentous fungi, *Fusarium* spp. Was found predominantly in 90.5% of fungal infections. There was a significant association between *Fusarium* spp. and age range between 25 and 49 years ( $p = 0.01194$ ). Among Gram-positive bacteria, the most prevalent was *Staphylococcus aureus*, found in 17.2% of bacterial infections. The most positive specimen in the cultures was corneal scraping representing 70% of the cases. Regarding antimicrobial susceptibility profile, most bacteria isolated were sensitive to the drugs used in ophthalmological practice, however, some of them such as *Pseudomonas* spp., Coagulase negative *Staphylococcus*, *Acinetobacter* spp. and *Enterobacter* spp. were resistant. The results indicated that ocular infections were caused by both bacteria and fungi and that despite having a good response to antimicrobials, some pathogens were resistant. Therefore, these results may contribute to the work of professionals working in the area, but it is necessary to include a larger number of variables, in order to allow a more detailed evaluation of the ocular pathologies.

**Keywords:** eye infections, normal microbiota, antimicrobial profile, ocular pathologies, prevalence of bacterial infections.

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