

Examination of the oral mycobiome and factors related to general health in students referring to the dental clinic of Ardabil in 2023

Abstract

Background: The mycobiome or the fungal flora population of the oral cavity is one of the most complex and diverse microbial communities in the human body. Factors such as the emergence of the human immunodeficiency virus, the use of broad-spectrum antibiotics, immunosuppressive treatments, and the increase in the incidence of diabetes, are among the factors that have led to the increase of people with immunodeficiency, and this, in turn, leads to It has paved the way for increased incidence of opportunistic fungal infections.

Aim : To investigate the mycobiome of the oral cavity and factors related to general health in students referring to the dental clinic of Ardabil in 2023

Materials and methods: This cross-sectional descriptive analytical study was conducted on 100 dental clinic clients and volunteer students of Ardabil University of Medical Sciences. The sampling method was available. A questionnaire containing the following information was completed for all participants in the study: demographic characteristics; oral hygiene status; the state of oral and dental diseases; medical history; and some lifestyle characteristics. Also, samples were taken from the oral cavity of the participants by moist sterile swab from the buccal and tongue areas and were referred to the university laboratory to determine the type and species of fungi (*Candida*, *Saccharomyces cerevisiae*, *Geotrichosis*, and *Rhodotrola*) and the number of colonies. Using litmus paper, participants' saliva pH was measured. It is worth mentioning that the study was conducted after obtaining the code of ethics from the ethics committee of the university. After collecting the data, it was analyzed in SPSS software version 25. All results and data were significant with p-value less than 0.05.

Results: During the sampling results, among the positive results of buccal cultures, 30 cases of *Candida albicans*, 5 cases of *Candida krusei*, 3 cases of *glabrata*, 2 cases of *Dublinensis*, 4 cases of *parapsilosis* and 4 cases of *tropicalis* were reported. Among the positive results of tongue culture, 28 cases of *Candida albicans*, 5 cases of *Candida cruzei*, 13 cases of *glabrata*, 5 cases of *Dublinensis*, 5 cases of *parapsilosis* and 5 cases of *tropicalis* were reported. *Alternaria* and *Aspergillus* were reported in 2% of people.

Conclusion: In the present study, it was found that the pattern of oral flora fungi such as *Candida albicans*, *Candida cruzei*, *Glabrata*, *Dublinis*, *Dublininensis*, *Parapsilosis* and *Tropicalis* can be directly related to lifestyle and diet, use of non-antibiotic drugs and smoking and the role It helps in the initiation and stabilization of dental caries, mucosal tissue infection or underlying disease such as diabetes, high blood pressure, rheumatological diseases, heart disease.

Key words: mycobiome - oral cavity - yeast - *Candida*