

ABSTRAK

Penggunaan *earphone* terlalu lama dapat menyebabkan gangguan kesehatan telinga seperti infeksi akibat jamur pada telinga atau otomikosis. *Candida albicans* adalah salah satu jamur yang paling sering menyebabkan otomikosis. Sampel swab telinga remaja pengguna *earphone* diperiksa secara mikroskopis kemudian hasil pemeriksaan dikonfirmasi dengan *Real Time Polymerase Chain Reaction* atau RT-PCR. Teknik ini dapat dilaksanakan secara rutin, lebih cepat dan dapat menggabungkan kecepatan mikroskop dengan informasi spesifik yang dihasilkan oleh kultur

Penelitian ini menggunakan rancangan penelitian deskriptif kuantitatif dengan metode analisa data observasi sampel swab telinga remaja pengguna *earphone* di Poltekkes Surabaya Jurusan Teknologi Laboratorium Medis. Tempat dilakukan kultur jamur di Laboratorium Parasitologi dan pada bulan April 2022 dan pada bulan Mei 2022 dilanjutkan dengan pengamatan deteksi banyaknya amplicon yang dihasilkan oleh DNA ribosom pada wilayah *Internal Transcribed Spacer 2* dari Jamur *Candida albicans* (strain ATCC 10231) di Laboratorium Biologi Molekuler Teknologi Laboratorium Medis menggunakan metode RT-PCR.

Hasil penelitian yang telah dilakukan mendapatkan 30 sampel isolat swab telinga remaja pengguna *earphone* dan ditemukan 7 sampel yang positif jamur *Candida sp.* Ketujuh sampel tersebut dilakukan pemeriksaan RT-PCR dan didapatkan sebanyak 5 atau 71,4 % sampel yang terdeteksi wilayah ITS 2 dari *Candida albicans* dan 2 atau 28,6% sampel negatif tidak terdeteksi wilayah ITS 2 dari *Candida albicans*

Kata kunci: *Candida albicans*, *Fragmen* Wilayah ITS 2, Real-Time PCR

ABSTRACT

The overuse of *earphones* can cause ear health problems such as fungal infections of the ear or *otomycosis*. *Candida albicans* is one of the most frequent fungi that cause otomycosis. Adolescent ear swab samples earphone users are examined microscopically then the results of the examination are confirmed with a *Real Time Polymerase Chain Reaction* or RT-PCR. This technique can be used on a routine basis, is faster, and can combine the microscope's speed with the specific information given by the cultivation of fungi.

At Poltekkes Surabaya, Department of Medical Laboratory Technology, this study uses a descriptive quantitative research design with a data analysis method of observation of ear swab samples of adolescent *earphone* users. In April 2022, cultivation of fungi was carried out at Parasitology Laboratory and in May 2022, at the Molecular Biology Laboratory of Medical Laboratory Technology, the number of amplicons produced by ribosomal DNA in the *Internal Transcribed Spacer 2* region of the *Candida albicans* (ATCC strain 10231) fungus was calculated using the RT-PCR method.

As a result of the research study, 30 samples were obtained of ear swab isolates from adolescent earphone users and found 7 samples that were positive for the fungus *Candida sp.* The seven samples were subjected to RT-PCR examination and obtained as many as 5 or 71.4% of samples detected in the ITS region 2 of *Candida albicans* and 2 or 28.6% of negative samples not detected in the ITS region 2 of *Candida albicans*.

Keywords: *Candida albicans*, *Fragment of ITS 2 region*, *Real-Time PCR*