

Profil spesies jamur udara pada ruang perawatan intensif di beberapa rumah sakit di Jakarta = Profile of airborne fungal species in intensive care unit at several hospitals in Jakarta

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Abstrak

Prevalensi infeksi jamur sistemik (mikosis sistemik) dilaporkan semakin meningkat serta mengakibatkan morbiditas dan mortalitas tinggi, terutama pada pasien dengan gangguan sistem imun. Mikosis sistemik dapat disebabkan oleh jamur yang berada di lingkungan masyarakat maupun rumah sakit, termasuk ruang perawatan intensif (ICU). Pada umumnya jamur kontaminan tersebut masuk ke dalam tubuh pasien melalui saluran napas (inhalasi) maupun kontaminasi peralatan di lingkungan perawatan pasien.

Penelitian ini bertujuan untuk mengetahui profil jamur yang diisolasi dari udara pada ruang perawatan intensif di beberapa rumah sakit di Jakarta. Penelitian ini merupakan bagian dari penelitian multisenter tentang aspergilosis invasif di ICU beberapa RS di Jakarta. Metode penelitian ini berdisain potong lintang dan pengambilan sampel dilakukan secara konsekutif pada ruang rawat intensif di empat RS. Sampel jamur diisolasi menggunakan cawan petri mengandung media agar saboraaud dekstroza yang dibiarkan terbuka selama 15 menit di ruang perawatan, selanjutnya dilakukan proses inkubasi dan identifikasi jamur di laboratorium mikologi untuk mengetahui profil jamur yang diisolasi dari ruang perawatan tersebut. Jamur yang berhasil diisolasi dari ruang perawatan intensif pada penelitian ini umumnya terdiri atas beberapa spesies, yaitu *Aspergillus niger* (42%), *Aspergillus fumigatus* (33%), *Penicillium* sp. (30%), *Rhodotorulla* (27%), *Dematiaceae* (24%), *Mycelia sterilia* (12%), dan *Candida* sp. (3%). Profil spesies jamur *A. niger*, *A. fumigatus* dan *Dematiaceae* ditemukan di empat rumah sakit, sedangkan *Rhodotorulla* dan *Mycelia sterilia* di temukan di tiga rumah sakit. Adapun *Penicillium* sp. dan *Candida* sp. hanya ditemukan di satu rumah sakit.

Kesimpulannya, profil spesies jamur udara di ruang perawatan intensif pada penelitian ini terdiri atas *Aspergillus niger* (42%), *Aspergillus fumigatus* (33%), *Penicillium* sp. (30%), *Rhodotorulla* (27%), *Dematiaceae* (24%), *Mycelia sterilia* (12%), dan *Candida* sp. (3%).

.....The prevalence of systemic fungal infection (systemic mycosis) is increasing, and cause high number of mortality and morbidity, especially for immunocopromised patients. Systemic mycosis can be cause by fungal species found in either community or hospital environment, including intensive care unit (ICU). Generally, this fungal contaminants infect the patient's body through the respiratory tract (inhalation) as well as contamination of equipment in patient's environment.

This study aims to find out the profile of airborne fungal species that isolated from the air in intensive care unit at several hospitals in Jakarta. This study is part of a multicenter study on invasive aspergillosis in ICU at several hospitals in Jakarta. The cross-sectional study was conducted with consecutive samplings taken from ICU in four hospitals. The sample taken using petri dish containing dextrose saboraaud agar that placed about 1m height and open to air for 15 minutes. Then, the process of incubation and fungal identification done in mycology laboratory to know the profile of airborne fungal species isolated from ICU. The fungal species that were isolated from the intensive care unit were consist of several species, which were *Aspergillus niger* (42%), *Aspergillus fumigatus* (33%), *Penicillium* sp. (30%), *Rhodotorulla* (27%),

Dematiaceae (24%), *Mycelia sterilia* (12%), and *Candida* sp. (3%). The fungal species profile of *A.niger*, *A.fumigatus* and Dematiaceae were found in all four hospitals, while *Rhodotorulla* and *Mycelia sterilia* were found in three hospitals and *Penicillium* sp. and *Candida* sp. were only found in one hospital.

In conclusion, the profile of airborne fungal species in intensive care unit in this study consisted of *Aspergillus niger* (42%), *Aspergillus fumigatus* (33%), *Penicillium* sp. (30%), *Rhodotorulla* (27%), Dematiaceae (24%), *Mycelia sterilia* (12%), and *Candida* sp. (3%).