

LAMPIRAN

Jurnal 1

IDENTIFIKASI JAMUR PENYEBAB TINEA UNGUIUM PADA KEROKAN KUKU KAKI PETANI DI DESA RIKITBUR KECAMATAN BUKIT TUSAM KABUPATEN ACEH TENGGARA

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ABSTRAK

Tinea unguium adalah kelainan kuku yang disebabkan oleh jamur golongan dermatofita. Dapat dibedakan tiga bentuk klinis *Tinea unguium* yaitu : Bentuk subungual distalis, *Leukonikia trikofita*, dan Bentuk subungual proksimalis. Kuli pasir ada yang mengalami kelainan *Tinea unguium* dimana kurangnya pengetahuan akan faktor penyebab dan personal hygiene (kebersihan diri). Telah Dilakukan Penelitian Jamur Penyebab *Tinea Unguium* Pada Kerokan Kuku Kaki Petani Di Desa Rikit Bur Kecamatan Bukit Tusam Kabupaten Aceh Tenggara yang diperiksa dengan metode pembiakan atau kultur untuk mengetahui ada tidaknya pertumbuhan jamur dan jamur penyebab *Tinea unguium*, di antara 10 sampel yang diperiksa sampel 3 dan sampel 4 positif maka dilakukan pemeriksaan menggunakan pemeriksaan secara direct smear menggunakan LPCB. Pada sampel 3 ditemukan jamur golongan dermatofita genus *Trichophyton mentagrophytes*, dan pada sampel 4 juga ditemukan *Trichophyton mentagrophytes* pada sampel 4 juga di temukan jamur lain yaitu *Aspergillus niger*. Pekerja yang selalu kontak dengan air dapat mengalami kelainan pada kuku yang disebabkan oleh infeksi jamur. Dengan adanya penelitian ini diharapkan tenaga kerja kuli pasir dapat melakukan sikap dan tindakan pencegahan dini terhadap jamur penyebab *Tinea unguium*.

Kata kunci : *Tinea unguium*, kaki kuli pasir

Jurnal 2

PEMERIKSAAN JAMUR DERMATOFITA KUKU KAKI PETANI DI DESA BUNTER BLOK CILEUDUG KECAMATAN SUKADANA KABUPATEN CIAMIS

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ABSTRAK

Mayoritas mata pencaharian di Desa Bunter Blok Ciledug sebagian besar sebagai petani. Kebiasaan yang dilakukan saat bertani atau berkebun tidak memakai alas kaki saat melakukan pekerjaannya, sehingga lumpur dengan mudah masuk ke dalam kuku kaki dan menyebabkan perkembangan jamur. Kuku yang dalam waktu lama tidak dibersihkan akan menimbulkan bau tidak sedap dan membusuk, sehingga dapat menyebabkan penyakit pada kuku yaitu *tinea unguium* yang disebabkan oleh jamur dermatofita yang biasanya spesies *Epidermophyton floccosum*, dan genus *Trichophyton*. Penelitian ini bertujuan untuk mengetahui adanya jamur penyebab *tinea unguium* pada kuku kaki petani di Desa Bunter Blok Ciledug Kecamatan Sukadana Kabupaten Ciamis. Desain penelitian ini bersifat deskriptif. Populasi penelitian ini adalah seluruh petani di Desa Ciledug Kecamatan Sukadana Kabupaten Ciamis. Sampel yang digunakan yaitu sebanyak 30 orang. Hasil penelitian menunjukkan pemeriksaan sampel kerokan kuku kaki petani dengan metode pembiakan pada media (SDA) *Saboraud Dextrosa* dari 30 orang terinfeksi jamur *Trichophyton mentagrophytes* sebanyak 23 orang (70%), terinfeksi jamur *Trichophyton rubrum* sebanyak 6 orang (20%) dan terinfeksi jamur *Aspergillus* sebanyak 3 orang (10%). Simpulan dari hasil pemeriksaan sampel kerokan kuku kaki petani dengan metode pembiakan pada media (SDA) *Saboraud Dextrosa* dari 30 orang sebanyak 29 orang teridentifikasi jamur dermatofita.

Kata Kunci : Kuku Kaki Petani, Jamur dermatofita

Jurnal 3

ANALISA JAMUR PENYEBAB INFEKSI PADA KUKU KAKI PEKERJA TUKANG CUCI DI KELURAHAN RENGAS PULAU LINGKUNGAN 23 KECAMATAN MEDAN MARELAN

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ABSTRAK

Jamur hidup dilingkungan yang lembab dan mengandung zat organik. Jamur yang dapat menginfeksi kuku disebabkan oleh jamur golongan *Dermatofita*. Jamur *Dermatofita* mampu membentuk molekul yang berikatan dengan keratin dan menggunakan sumber nutrisi dari keratin membentuk koloni. Kuku terdiri atas keratin dan sulfur, kuku yang terinfeksi jamur *Dermatofita* yang dapat menyebabkan kelainan pada kuku, kelainan ini menyebabkan penebalan kuku, lempengan kuku rusak, kuku berubah warna, dan kuku rapuh atau keras. Dari penelitian terdahulu dengan objek berbeda dan sampel sama infeksi jamur dapat disebabkan oleh 3 genus yaitu : *Trichophyton*, *Microsporum*, dan *Epidermaphyton*. Telah dilakukan penelitian pada tukang cuci di Kelurahan Rengas Pulau Lingkungan 23 Kecamatan Medan Marelan dengan jumlah 10 orang pekerja. Jenis penelitian ini bersifat deskriptif dengan metode kultur pada media *Sabouraud Dextrose Agar* dan hasil penelitian ditemukan 3 sampel positif yang disebabkan oleh *Trichophyton mentagrophytes* dan *Epidermaphyton floccosum*. Infeksi ini terjadi pada orang yang sering mencuci dan merendam tangan atau kaki dengan air. Untuk menghindari infeksi jamur pada kuku perlu merawat kuku dengan baik, menggunting kuku yang panjang, menjaga kebersihan kuku, membersihkan selah-selah jari.

Kata kunci : Infeksi, jamur, kuku kaki

Jurnal 4

Hubungan *Personal Hygiene* Terhadap Infeksi *Tinea unguium* pada Kuku Kaki Petani Penggarap Sawah Di Kelurahan Kebun Sari Kecamatan Amuntai Tengah

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ABSTRAK

Kejadian infeksi jamur banyak ditemukan di Indonesia yang merupakan negara tropis beriklim panas dan lembab, apalagi jika didukung dengan *hygiene* yang kurang sempurna. Salah satu infeksi jamur yang sering ditemukan adalah *Tinea unguium*. *Tinea unguium* merupakan kejadian distrofi kuku jari kaki yang disebabkan oleh jamur golongan *dermatofita*, bagian yang diserang biasanya mulai dari bagian distal berupa guratan-guratan kekuningan pada lempengan kuku, kemudian makin lama seluruh kuku menjadi makin tebal, berubah warna, dan rapuh. Adapun tujuan dalam penelitian ini untuk mengetahui hubungan *personal hygiene* terhadap infeksi *Tinea unguium* pada kuku kaki petani penggarap sawah di Kelurahan Kebun Sari Kecamatan Amuntai Tengah. Penelitian ini menggunakan metode penelitian survey analitik dengan pendekatan *cross sectional*. Pengambilan sampel metode *purposive sampling* dengan jumlah 44 petani penggarap sawah. Pemeriksaan jamur dilakukan secara mikroskopis dengan KOH 40% dengan menemukan makrokonidia, mikrokonidia dengan bentuk seperti tetesan air pada sepanjang hifa (*Trycophyton. sp*). Analisis statistik yang digunakan dalam penelitian ini adalah analisis *Chi-square* $\alpha=0.05$ *SPSS software 18*. Didapati 70% responden dengan *personal hygiene* baik dan 61% kuku petani penggarap sawah di Kelurahan Kebun Sari Kecamatan Amuntai Tengah terinfeksi *Tinea unguium*. Hasil penelitian mendapatkan adanya hubungan yang bermakna antara *personal hygiene* terhadap infeksi *Tinea unguium* dengan *Asymp, Sig* adalah 0,006 atau probabilitas dibawah 0,05 ($0,006 < 0,05$). Pekerja yang rentan terinfeksi *Tinea unguium* akan lebih baik jika lebih memperhatikan *personal hygiene*-nya dalam menghindari infeksi primer maupun infeksi berulang. Kepada peneliti lain diharapkan agar melanjutkan penelitian selanjutnya yaitu hubungan sanitasi lingkungan terhadap infeksi *Tinea unguium*.

Kata kunci : *personal hygiene*, infeksi *Tinea unguium*, petani penggarap sawah

Profil onikomikosis pada pasien lanjut usia diRumah SakitUmumPusat Sanglah, Bali, Indonesia: studi retrospektif

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ABSTRAK

Pendahuluan: Infeksi jamur adalah salah satu kondisi dermatologis paling umum yang mempengaruhi populasi lansia. Populasi lansia rentan terhadap semua mikosis superfisial seperti tinea pedis, kandidiasis, dan onikomikosis pada populasi geriatri dibandingkan dengan kelompok usia lainnya. **Tujuan:** Untuk menentukan profil onikomikosis pada pasien usia lanjut selama 1 tahun (Januari 2018 - Agustus 2019) di poliklinik rawat jalan Dermatologi dan Venereologi, Rumah Sakit Umum Pusat Sanglah. **Metode:** Studi retrospektif dilakukan di Departemen Dermatologi dan Venereologi, Rumah Sakit Umum Pusat Sanglah, Denpasar, Bali. Data dikumpulkan dari data pendaftaran pasien di klinik rawat jalan. **Hasil:** Sebanyak 11 pasien didiagnosis menderita onikomikosis, terdiri dari 5 wanita dan 6 pria. Dari hasil ini, sebanyak 4 orang (36,3%) dilaporkan dengan penyakit sistemik kronis dan 7 orang (63,6%) dilaporkan tanpa penyakit bersamaan. Tanda klinis yang paling umum adalah onikodistrofi, hiperkeratitik subungual dan dischromia (6 pasien, 54,54%). Pemeriksaan kalium hidroksida mengungkapkan hasil positif pada semua pasien. Dari 5 pasien pada hasil pemeriksaan kultur ditemukan adanya infeksi *Candida* (2 pasien, 40%), *Trichophyton rubrum* (2 pasien, 40%), dan *Trychophyton mentagrophytes* (1 pasien, 20%). Untuk penatalaksanaan, terdapat sejumlah 7 orang pasien mendapatkan terapi kombinasi (*fluconazol* 150 mg dan *ciclopirox lacquer* 8%) dan 4 orang pasien dengan terapi tunggal (*ciclopirox lacquer* 8%). **Simpulan:** Onikomikosis lebih sering terjadi pada pasien usia lanjut atau usia lanjut dimana hal ini terjadi karena usia tua dapat mengubah fungsi kekebalan tubuh, termasuk penurunan respons imun untuk melawan infeksi terhadap virus, bakteri, dan jamur.

Kata kunci: *oniikomikosis, geriatri*

Age and Genderwise Seasonal Distribution of Dermatophytosis in a Tertiary Care Hospital, Puducherry, India

ABSTRACT

Introduction: Superficial infections of skin, hair and nail are caused by dermatophytes due to its high affinity towards keratinized layers. Dermatophytosis is a progressing infection with an outer ring of active lesion and central healing. In recent years there is a worldwide increase in people getting affected by dermatophytic infections mainly due to increase in number of immunocompromised patients and widespread use of broad spectrum antibiotics. **Aim:** The present study was designed to investigate the age and genderwise seasonal prevalence of dermatophytosis visiting the tertiary care hospital, Puducherry. **Materials and Methods:** A total of 356 samples which comprises of 206 skin scrapings, 82 nail clippings and 68 hair samples were collected from 356 patients clinically suspected with dermatophytosis. The materials were subjected to direct microscopy (KOH mount) and cultured on to Sabouraud's dextrose agar slopes and dermatophyte test medium for selective isolation of dermatophytes. A pre-structured questionnaire was designed to collect various socio-demographic profiles from the study population to assess the age and genderwise seasonal distribution of dermatophytosis. Frequency distribution was performed for analysis of results. **Results:** Dermatophytosis was found to be more prevalent in males 223 (62.6%) compared to females 133 (37.4%) with male to female ratio being 1.67:1. Tinea corporis was the common clinical presentation in males 71/223 and Tinea unguium was common in females 58/133. Maximum number of cases affected with dermatophytosis was in the age group to 30 years, 98 (27.5%), with least number of cases 27 (7.6%) in above 50 years. *Trichophyton mentagrophytes* was the major isolate from hair and nail specimens 14/18 and 11/23 respectively, whereas *Trichophyton rubrum* was the common isolate from skin scrapings 41/98. Maximum prevalence 127 (35.8%) of dermatophytosis cases was recorded during the summer months April to June. **Conclusion:** Skin infection being the most common clinical presentation followed by nail and hair infection. Though all ages were found susceptible, dermatophytosis was more common in 3rd decade of life. Males predominated in all clinical types except in cases with Tinea manuum and Tinea unguium females predominated. Dermatophytosis was reported in all seasons, since Puducherry's climatic condition is hot and humid all through the year which serves best for dermatophytes to establish an infection with increased prevalence during the months of April to June. Hence the present study emphasises that the population at risk in this locality needs to be awakened regarding the protective measures to cut down the prevalence.

Tinea unguium onychomycosis caused by dermatophytes: a ten-year (2005–2014) retrospective study in a tertiary hospital in Singapore

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Abstract

INTRODUCTION Tinea unguium is a common nail infection. We conducted a retrospective ten-year study of the patient demographics and species distribution of dermatophytes causing tinea unguium in a tertiary hospital from Singapore. **METHODS** Results of fungal nail cultures were retrieved from our hospital's microbiology department. Samples from nail scrapings and clippings were inoculated onto agar plates (Sabouraud dextrose agar with chloramphenicol and Mycosel agar). Nail specimens that grew dermatophytes were included in the study. **RESULTS** Overall, 229 (male: n = 164, 71.6%; female: n = 65, 28.4%) nail specimens grew dermatophytes. Mean patient age was 58 (range 18–93) years. A majority of specimens came from patients aged over 50 years (n = 162, 70.7%) and 60–79 years (n = 100, 43.7%). Ethnically, 160 (69.9%) patients were Chinese, 36 (15.7%) Indian, 18 (7.9%) Malay and 15 (6.6%) of other ethnicities. Among dermatophytes isolated were *Trichophyton rubrum* (n = 93, 40.6%), *Trichophyton mentagrophytes* (n = 60, 26.2%), unidentified *Trichophyton* spp. (n = 57, 24.9%), *Trichophyton tonsurans* (n = 10, 4.4%), *Epidermophyton floccosum* (n = 5, 2.2%), *Trichophyton verrucosum* (n = 2, 0.9%), *Trichophyton soudanense* (n = 1, 0.4%) and *Trichophyton violaceum* (n = 1, 0.4%). **CONCLUSION** A majority of isolates were from elderly patients. Compared to Singapore's general population, patients of Indian and other ethnicities were over-represented for tinea unguium when compared to Chinese and Malay patients. *Trichophyton rubrum* was the most common dermatophyte isolated, while *Trichophyton verrucosum*, *Trichophyton violaceum* and *Trichophyton soudanense* were rare causes of tinea unguium.

Keywords: fungus, nail, onychomycosis, *Tinea unguium*

A survey of the etiological agents of scalp and nail dermatophytosis in Yazd, Iran in 2014-2015

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Abstract

Background and Purpose: Tinea capitis and tinea unguium are regarded as global public health concerns. The purpose of the present study was to identify the etiological agents of tinea capitis and tinea unguium in patients, referring to the Central Laboratory of Yazd University of Medical Sciences, Yazd, Iran. **Materials and Methods:** This study was conducted during 2014-2015. Skin scraping, scalp hair, and nail clipping specimens were collected from 134 patients (80 males and 54 females) with clinical features suggesting fungal involvement. Direct microscopic examinations were carried out, using potassium hydroxide 10%, while culture studies were performed on Sabouraud dextrose agar, containing chloramphenicol and cycloheximide at 28°C for four weeks. Fungal colonies were identified based on their macroscopic and microscopic characteristics, as well as supplementary diagnostic tests. **Results:** Among 134 patients, 12 cases showed positive results on direct examination and culture studies. The frequency of infections was equal among male and female subjects. Among 12 affected cases, the frequency of tinea capitis and tinea unguium was 91.6% and 8.4%, respectively. *Microsporum canis* (50%) was the most prevalent species, followed by *Trichophyton verrucosum* (25%) and *Trichophyton mentagrophytes* (25%). Also, tinea unguium, caused by *T. mentagrophytes*, was found in a female patient. **Conclusion:** The etiological agents of scalp and nail dermatophytosis have changed in Yazd over the past 13 years. In the present study, replacement of anthropophilic dermatophytes by zoophilic species was noteworthy, highlighting the necessity of efficient surveillance for the management and prevention of infections.

Keywords: Dermatophytes, Dermatophytosis, Sikkim

Recurrent dermatophytosis: A rising problem in Sikkim, a Himalayan state of India

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Abstract

Changing pattern of dermatophytic infection among people of Sikkim over the past few years and its recurrence rate has brought a need to do a study on clinical pattern and its recurrence from this part of the country. The objectives of this study are to discern the clinical patterns of dermatophytosis, identification of the isolated fungi to its species level and to see the pattern of its recurrence. The study was carried out from January 2015 to May 2016. A total of 192 samples were collected from the patients with clinical findings of dermatophytic infection. Required history of the patients was taken, followed by clinical examination of the lesions and sample collection. The samples were processed for mycological study till species identification and a follow up of patients were done to assess its recurrence pattern. The age distribution of the patients was from 2 to 80 years. The mean and median age was 30.33 and 33 years respectively. The male female ratio was 1.8:1. Dermatophytosis was noted more commonly in students ($n = 64$, 33.33%) and jawans ($n = 44$, 22.92%). Maximum occurrence was noted from April to July ($n = 106$, 55.20%) and was seen mainly in young Hindu males. *Tinea corporis* ($n = 104$, 54.16%) was the most common clinical manifestation followed by *tinea unguium* ($n = 30$, 15.63%). *T. mentagrophyte* (40%) was the most common species followed by *T. schoenleinii* (33.3%), *T. tonsurans* (16.6%) and *T. rubrum* (6.6%). The recurrence rate was seen most commonly in clinical cases of *tinea faciei* 100%, followed by *tinea pedis* 80% and *tinea unguium* 46.6%. Overall clinical cure rate was 58.3% and recurrence rate was 34.3%. In the isolated species of dermatophytes, the recurrence rate was 73.68% and that of non-dermatophytes it was 28.07%. Dermatophytosis is an important health problem with high recurrence in Sikkim with difference in the etiological agent from other parts of India.

Keywords: Dermatophytes, Dermatophytosis, Sikkim

Clinicomycological and histopathological profile of onychomycosis: A cross-sectional study from South India

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Abstract

Background: Onychomycosis (OM) is a fungal infection of the finger or toenails caused by dermatophytes, yeasts, or nondermatophyte molds (NDMs) and can involve any component of the nail unit. OM, apart from being asymptomatic, is a chronic disease and warrants long-term treatment. **Aims:** The aim was to study the clinicoepidemiological features of OM and to evaluate the mycological and histopathological features among patients attending the dermatology outpatient department. **Subjects and Methods:** A cross-sectional hospital-based study was performed in 500 patients with symptoms related to the nails and nail folds. OM was confirmed in 284 patients by potassium hydroxide (KOH) mount, fungal culture, or biopsy. Descriptive analysis of the data was undertaken. **Results:** The study included 284 confirmed cases of OM of which 117 (41.1%) were positive for fungal elements by KOH mount, 168 (59.1%) samples showed positivity in fungal culture, and 62 (21.8%) samples had positive nail biopsy results. Distolateral subungual OM was the most common clinical type (47.6%). Among the fungal isolates, a predominance of dermatophytes was observed followed by yeasts and NDMs. The most common dermatophytic fungal isolate in the culture was *Trichophyton rubrum* (45%). **Conclusion:** Our study implies the importance of laboratory diagnosis of OM as it can mimic diverse nail disorders. As the role of NDMs and yeasts is on the rise for etiology of OM, investigations such as KOH examination, culture, or nail biopsy becomes essential for correct diagnosis and management.

Keywords: Culture, nail biopsy, onychomycosis, potassium hydroxide, *tinea unguium*



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Kendari, 24 Juni 2020

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