

PREVALENCE OF TINEA AMONG PATIENTS ATTENDING DERMATOLOGY
CONSULTATION UNITS IN MOSUL CITY

*Muthanna Sulaiman Khudair, Dr. Ammar H. Yahia

M.B.Ch.B.; Consultant Family Medicine, M.B.Ch.B./F.I.C.M.S. (FM).

Article Received: 28 June 2026

Article Revised: 18 July 2026

Article Published: 01 August 2026



*Corresponding Author: Muthanna Sulaiman Khudair

M.B.Ch.B.; Consultant Family Medicine, M.B.Ch.B./F.I.C.M.S. (FM).

DOI: <https://doi.org/10.5281/zenodo.21703393>

How to cite this Article: *Muthanna Sulaiman Khudair, Dr. Ammar H. Yahia (2026). Prevalence Of Tinea Among Patients Attending Dermatology Consultation Units In Mosul City. World Journal of Advance Healthcare Research, 10(8), 212–219. This work is licensed under Creative Commons Attribution 4.0 International license.

ABSTRACT

Dermatophyte infections (tinea) are common superficial fungal infections of the skin, hair, and nails that constitute a substantial public health burden, particularly in developing countries. This cross-sectional study aimed to determine the prevalence, demographic distribution, and contributing factors of tinea infection among patients attending dermatology consultation units in Mosul City, Iraq. A total of 771 tinea patients of different age groups, sexes, educational backgrounds, and occupations, attending Al Salam Teaching Hospital, Ibn Sena Teaching Hospital, and Al Mosul General Hospital over six months (2 January-30 July 2025), were evaluated through clinical examination, structured interview, and review of medical records. The overall prevalence of fungal infection among dermatology attendees was 3.195%. Tinea corporis was the most frequent presentation (40.1%), followed by tinea capitis (37.0%); tinea capitis predominated in children aged 1-9 years (33.5%) and in males (25.3%), whereas tinea corporis was more common in adults aged 30 years and above and in females (21.8%). Rural residents were more often affected than urban residents (55.0% versus 45.0%). Itching was the most frequently reported symptom (48.8%), and heat was the leading aggravating factor (55.3%). Dermatophyte infection remains a significant public health problem in Mosul city, disproportionately affecting children and rural populations; targeted hygiene education and improved access to dermatological care are recommended to reduce its burden.

KEYWORDS: Tinea; Dermatophytosis; Prevalence; Risk factors; Mosul.**1. INTRODUCTION**

In 2016, fungal skin diseases ranked fourth among 328 diseases and injuries evaluated globally, accounting for an estimated 2.1 billion cases^[1], and dermatophyte infections of the skin, hair, and nails represent the most common fungal infections. Tinea, also known as dermatophytosis or ringworm, is a superficial fungal infection caused by dermatophyte fungi belonging to three genera: Trichophyton, Microsporum, and Epidermophyton.^[2] It is a significant global public health concern, especially in tropical and subtropical regions where climatic conditions favor fungal growth, and causes considerable morbidity through chronicity, secondary bacterial infection, and social stigma.

1.1 Clinical Types and Transmission

Nine principal clinical forms are recognized according to

the site affected: tinea capitis (scalp), tinea corporis (trunk and limbs), tinea cruris (groin), tinea barbae (beard area), tinea faciei (face), tinea pedis (feet), tinea incognito (steroid-modified lesions), tinea unguium/onychomycosis (nails), and tinea manuum (hands). Transmission occurs through direct human-to-human contact, contact with infected animals such as cats and dogs (particularly relevant for tinea capitis in children), and indirectly through shared items such as towels, combs, and clothing.^[3]

1.2 Epidemiology of Tinea

In Iraq, dermatophytosis has been reported to account for approximately 57% of superficial fungal infections, with tinea corporis and tinea capitis as the leading presentations and a higher incidence in urban areas.^[4]

Across the Middle East, prevalence among dermatology clinic attendees ranges from 10% to 30%, with *Trichophyton* species predominating overall.^[5] *Tinea capitis* is particularly common among children in the region, accounting for up to 22% of pediatric dermatological cases in one Jordanian study.^[6]

Worldwide, dermatophytosis is estimated to affect 20-25% of the global population at some point in their lives, making it one of the most prevalent superficial fungal infections and a substantial public health challenge because of its chronicity and associated morbidity.^[7]

1.3 Risk Factors

Recognized risk factors include direct contact with infected persons or animals, sharing of personal items, warm and humid environments, immunosuppression, excessive sweating, poor hygiene practices, and pre-existing skin conditions such as eczema or psoriasis.^[8] Children are particularly susceptible to *tinea capitis*, while males are more prone to *tinea cruris*.

1.4 Diagnosis and Treatment

Diagnosis combines clinical evaluation with laboratory confirmation, most commonly direct microscopy of skin, hair, or nail scrapings in potassium hydroxide, supplemented where necessary by fungal culture, Wood's lamp examination, dermoscopy, or PCR-based molecular assays. Treatment depends on severity and extent: localized disease usually responds to topical azoles or allylamines, whereas extensive or refractory infection requires systemic therapy with terbinafine, itraconazole, fluconazole, or griseofulvin.^[9] Emerging terbinafine resistance has been documented with standard dosing regimens, prompting empirical use of higher doses and combination therapy in some settings.^[10]

1.5 Aim of the Study

The present study aimed to estimate the prevalence of *tinea* infection, its demographic distribution, and its contributing factors among patients attending dermatology consultation units in Mosul city.

1.6 Specific Objectives

1. To determine the demographic characteristics of patients with *tinea* infections.
2. To identify the most common types of *tinea* infections among the study population.
3. To investigate the common sources and modes of transmission of *tinea* infections.
4. To assess the clinical presentation of *tinea* infections.
5. To explore factors aggravating or relieving the occurrence and severity of *tinea* infections.

2. Subjects and Methods

A descriptive cross-sectional design was adopted to achieve the objectives of the study.

The study sample comprised all *tinea* patients attending

dermatology consultation units at Al Salam Teaching Hospital (291 patients), Ibn Sena Teaching Hospital (207 patients), and Al Mosul General Hospital (273 patients).

Administrative approval was obtained from the Arab Board of Health Specializations and the Nineveh Directorate of Health. The study was approved by the Nineveh Directorate of Health Ethics Committee, which waived formal written consent for this non-interventional research; participation was entirely voluntary, informed verbal consent was obtained from all participants, and confidentiality was maintained throughout.

2.1 Study Period

The study was conducted over six months, from 2 January to 30 July 2025.

2.2 Study Sample, Case Definition, and Sampling

All *tinea* patients of both sexes and any age, recently diagnosed by a dermatologist or already on treatment and attending for follow-up, were included, giving a total sample of 771 patients regardless of age, sex, or race. Patients who refused to participate were excluded from the study.

2.3 Data Collection Tool

A specially designed questionnaire was used, comprising two sections: the first captured demographic characteristics (sex, age, residence, educational level, occupation, and marital status), and the second assessed the *tinea* infection itself, including type, source of infection, signs and symptoms, and aggravating and relieving factors. Data were obtained through regular visits to the dermatology consultation units and direct interviews with patients.

3. Statistical Analysis

Data were processed using IBM SPSS Statistics for Windows, version 26. Numbers and percentages were used to summarize categorical data, and prevalence was calculated as the number of *tinea* cases divided by the total number of patients attending dermatology consultation units, multiplied by 100, as in the equation.

$$\text{Prevalence} = \frac{\text{Number of } tinea \text{ cases}}{\text{Total patients of dermatology consultation units}} \times 100$$

3.1 Level of Significance

A two-tailed p-value of < 0.05 was considered statistically significant.

4. RESULTS

Table 1 presents the prevalence of *tinea* infections across the three participating hospitals. *Tinea corporis* was the most prevalent infection overall (1.280%), followed by *tinea capitis* (1.181%); other types ranged from 0.041% to 0.190%. Mosul General Hospital recorded the highest total prevalence (3.395%), while Ibn Sena Hospital recorded the lowest (2.957%). The overall prevalence of fungal infection among dermatology attendees at all three centers was 3.195%.

Table 2 summarizes the demographic and clinical characteristics of the 771 patients comprising the study sample, including age group, sex, residence, marital status, educational level, occupation, and source of infection.

Children aged 1-9 years accounted for the largest proportion of cases (37.5%), males slightly outnumbered females (54.5% versus 45.5%), and rural residents accounted for 55.0% of cases compared with 45.0% among urban residents.

Table 1: Prevalence of tinea infections across the three participating hospitals.

Types of tinea	Ibn Sena Hospital		Al-Salam Hospital		Mosul General Hospital		Total	
	No.	Prevalence %	No.	Prevalence %	No.	Prevalence %	No.	Prevalence %
Tinea corporis	85	1.214	118	1.297	106	1.318	309	1.280
Tinea capitis	74	1.057	109	1.198	102	1.268	285	1.181
Tinea cruris	15	0.214	12	0.131	19	0.236	46	0.190
Tinea pedis	8	0.114	11	0.120	12	0.149	31	0.128
Tinea faciei	8	0.114	10	0.109	10	0.124	28	0.116
Tinea unguium	5	0.071	8	0.087	10	0.124	23	0.095
Tinea incognito	5	0.071	8	0.087	7	0.087	20	0.082
Tinea manuum	3	0.042	5	0.054	2	0.024	10	0.041
Tinea barbae	4	0.057	10	0.109	5	0.062	19	0.078
Total	207	2.957	291	3.200	273	3.395	771	3.195

Table 2: Demographic and clinical characteristics of the study sample (N=771).

Variable	Category	No.	%
Age group (years)	1-9	289	37.5
	10-19	114	14.8
	20-29	175	22.7
	30 and above	193	25.0
Sex	Male	420	54.5
	Female	351	45.5
Residence	Rural	424	55.0
	Urban	347	45.0
Marital status	Single	530	68.7
	Married	241	31.3
Educational level	Child	104	13.5
	Primary school	316	41.0
	Secondary school	138	17.9
	College	145	18.8
Occupation	Illiterate	68	8.8
	Child < 6y	218	28.3
	Student	147	19.1
	Housewife	139	18.0
	Employee	122	15.8
Total	Other	145	18.8
		771	100.0

Table 3 shows the distribution of tinea types by age group. Tinea capitis was most prevalent among children aged 1-9 years (33.5% of the total sample), while tinea corporis predominated among adults aged 30 years and above (17.6%). Tinea cruris peaked in the 20-29-year age group.

Table 4 shows the distribution of tinea types by sex. Tinea capitis was more common in males (25.3% versus 11.7% in females), whereas tinea corporis was more common in females (21.8% versus 18.3% in males). Other infections, including tinea pedis and tinea cruris, showed a slightly higher rate among females.

Table 3: Distribution of tinea types by age group.

Types of tinea	1-9 years		10-19 years		20-29 years		30 and above		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Tinea corporis	21	2.7	48	6.2	104	13.5	136	17.6	309	40.1
Tinea capitis	258	33.5	27	3.5	0	0.0	0	0.0	285	37.0
Tinea pedis	1	0.1	6	0.8	10	1.3	14	1.8	31	4.0
Tinea cruris	2	0.3	9	1.2	23	3.0	12	1.6	46	6.0

Tinea faciei	4	0.5	8	1.0	9	1.2	7	0.9	28	3.6
Tinea unguium	2	0.3	4	0.5	6	0.8	11	1.4	23	3.0
Tinea manuum	0	0.0	2	0.3	5	0.6	3	0.4	10	1.3
Tinea barbae	0	0.0	6	0.8	9	1.2	4	0.5	19	2.5
Tinea incognito	1	0.1	4	0.5	9	1.2	6	0.8	20	2.6
Total	289	37.5	114	14.8	175	22.7	193	25.0	771	100.0

Table 4: Distribution of tinea types by sex.

Types of tinea	Male		Female		Total	
	No.	%	No.	%	No.	%
Tinea corporis	141	18.3	168	21.8	309	40.1
Tinea capitis	195	25.3	90	11.7	285	37.0
Tinea pedis	10	1.3	21	2.7	31	4.0
Tinea cruris	20	2.6	26	3.4	46	6.0
Tinea faciei	16	2.1	12	1.6	28	3.6
Tinea unguium	8	1.0	15	1.9	23	3.0
Tinea manuum	3	0.4	7	0.9	10	1.3
Tinea barbae	19	2.5	0	0.0	19	2.5
Tinea incognito	8	1.0	12	1.6	20	2.6
Total	420	54.5	351	45.5	771	100.0

Table 5 shows the distribution of tinea types by residence area. Both tinea corporis (22.3% rural versus 17.8% urban) and tinea capitis (21.9% rural versus 15.0% urban) were more frequent among rural residents.

Table 6 shows that tinea corporis was the most common fungal infection among both single (21.1%) and married individuals (18.9%), whereas tinea capitis occurred exclusively in singles (37.0%). Overall, singles

accounted for 68.7% of all cases.

Table 7 shows that Tinea corporis was the most common fungal infection, particularly among housewives (11.9%) and employees (10.8%), while Tinea capitis predominated in children (23.9%) and students (13.1%). Overall, children accounted for the highest proportion of cases (28.3%).

Table 5: Distribution of tinea types by residence area.

Types of tinea	Rural		Urban		Total	
	No.	%	No.	%	No.	%
Tinea corporis	172	22.3	137	17.8	309	40.1
Tinea capitis	169	21.9	116	15.0	285	37.0
Tinea pedis	21	2.7	10	1.3	31	4.0
Tinea cruris	23	3.0	23	3.0	46	6.0
Tinea faciei	9	1.2	19	2.5	28	3.6
Tinea unguium	9	1.2	14	1.8	23	3.0
Tinea manuum	4	0.5	6	0.8	10	1.3
Tinea barbae	9	1.2	10	1.3	19	2.5
Tinea incognito	8	1.0	12	1.6	20	2.6
Total	424	55.0	347	45.0	771	100.0

Table 6: Distribution of fungal infections regarding marital status among the study sample.

Types of tinea	Single		Married		Total	
	No.	%	No.	%	No.	%
Tinea corporis	163	21.1	146	18.9	309	40.1
Tinea capitis	285	37.0	0	0.0	285	37.0
Tinea pedis	16	2.1	15	1.9	31	4.0
Tinea cruris	16	2.1	30	3.9	46	6.0
Tinea faciei	13	1.7	15	1.9	28	3.6
Tinea unguium	9	1.2	14	1.8	23	3.0
Tinea manuum	3	0.4	7	0.9	10	1.3
Tinea barbae	12	1.6	7	0.9	19	2.5
Tinea incognito	13	1.7	7	0.9	20	2.6
Total	530	68.7	241	31.3	771	100.0

Table 7: Distribution of fungal infections regarding occupation among the study sample.

Types of tinea	Child < 6y		Students		Housewife		Employee		Others		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Tinea corporis	22	2.9	24	3.1	92	11.9	83	10.8	88	11.4	309	40.1
Tinea capitis	184	23.9	101	13.1	0	0.0	0	0.0	0	0.0	285	37.0
Tinea pedis	1	0.1	2	0.3	9	1.2	8	1.0	11	1.4	31	4.0
Tinea cruris	4	0.5	5	0.6	14	1.8	10	1.3	13	1.7	46	6.0
Tinea faciei	2	0.3	7	0.9	6	0.8	5	0.6	8	1.0	28	3.6
Tinea unguium	2	0.3	4	0.5	8	1.0	3	0.4	6	0.8	23	3.0
Tinea manuum	1	0.1	1	0.1	3	0.4	2	0.3	3	0.4	10	1.3
Tinea barbae	0	0.0	0	0.0	0	0.0	8	1.0	11	1.4	19	2.5
Tinea incognito	2	0.3	3	0.4	7	0.9	3	0.4	5	0.6	20	2.6
Total	218	28.3	147	19.1	139	18.0	122	15.8	145	18.8	771	100.0

Table 8 shows that Tinea corporis was the most common fungal infection across all educational levels, while Tinea capitis was most frequent among primary school attendees (24.1%). Overall, primary school attendees accounted for the highest proportion of cases (41.0%).

followed by human contact (13.1% and 12.3%, respectively). Table 10 shows that itching was the most common symptom (48.8%), mainly in Tinea corporis (24.8%) and Tinea capitis (10.6%). Scaly patches were reported in 23.6% of cases, while hair loss was predominantly associated with tinea capitis (24.9%).

Table 9 shows that animal contact was the main source of Tinea corporis (22.0%) and Tinea capitis (20.4%),

Table 8: Distribution of fungal infections regarding educational level among the study sample.

Types of tinea	Child		Primary school		Secondary school		College		Illiterate		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Tinea corporis	5	0.6	82	10.6	88	11.4	85	11.0	49	6.4	309	40.1
Tinea capitis	99	12.8	186	24.1	0	0.0	0	0.0	0	0.0	285	37.0
Tinea pedis	0	0.0	21	2.7	10	1.3	0	0.0	0	0.0	31	4.0
Tinea cruris	0	0.0	0	0.0	12	1.6	27	3.5	7	0.9	46	6.0
Tinea faciei	0	0.0	21	2.7	1	0.1	0	0.0	6	0.8	28	3.6
Tinea unguium	0	0.0	0	0.0	21	2.7	2	0.3	0	0.0	23	3.0
Tinea manuum	0	0.0	0	0.0	0	0.0	10	1.3	0	0.0	10	1.3
Tinea barbae	0	0.0	1	0.1	1	0.1	16	2.1	1	0.1	19	2.5
Tinea incognito	0	0.0	5	0.6	5	0.6	5	0.6	5	0.6	20	2.6
Total	104	13.5	316	41.0	138	17.9	145	18.8	68	8.8	771	100.0

Table 9: Distribution of fungal infections regarding source of infection among study sample.

Types of tinea	Animal source		Human source		Unknown		Total	
	No.	%	No.	%	No.	%	No.	%
Tinea corporis	170	22.0	101	13.1	38	4.9	309	40.1
Tinea capitis	157	20.4	95	12.3	33	4.3	285	37.0
Tinea pedis	11	1.4	13	1.7	7	0.9	31	4.0
Tinea cruris	29	3.8	13	1.7	4	0.5	46	6.0
Tinea faciei	12	1.6	11	1.4	5	0.6	28	3.6
Tinea unguium	17	2.2	5	0.6	1	0.1	23	3.0
Tinea manuum	5	0.6	4	0.5	1	0.1	10	1.3
Tinea barbae	9	1.2	6	0.8	4	0.5	19	2.5
Tinea incognito	13	1.7	7	0.9	0	0.0	20	2.6
Total	423	54.9	255	33.1	93	12.1	771	100.0

Table 10: Distribution of fungal infections regarding signs and symptoms among the study sample.

Types of tinea	Itching		Scaly patches		Hair loss		Nail changes		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Tinea corporis	191	24.8	118	15.3	0	0.0	0	0.0	309	40.1
Tinea capitis	82	10.6	11	1.4	192	24.9	0	0.0	285	37.0
Tinea pedis	17	2.2	14	1.8	0	0.0	0	0.0	31	4.0
Tinea cruris	26	3.4	20	2.6	0	0.0	0	0.0	46	6.0

Tinea faciei	24	3.1	4	0.5	0	0.0	0	0.0	28	3.6
Tinea unguium	4	0.5	0	0.0	0	0.0	19	2.5	23	3.0
Tinea manuum	8	1.0	0	0.0	2	0.3	0	0.0	10	1.3
Tinea barbae	9	1.2	10	1.3	0	0.0	0	0.0	19	2.5
Tinea incognito	15	1.9	5	0.6	0	0.0	0	0.0	20	2.6
Total	376	48.8	182	23.6	194	25.2	19	2.5	771	100.0

Table 11 shows that heat was the main aggravating factor (55.3%), followed by humidity (30.5%), particularly in Tinea corporis and Tinea capitis. Tight clothing was the least common aggravating factor (14.3%).

Table 12 shows that cooling was the most common relieving factor (55.6%), followed by dry skin (30.4%), particularly in Tinea corporis and Tinea capitis. Loose clothing was the least common relieving factor (14.0%).

Table 11: Distribution of fungal infections regarding aggravating factors among the study sample.

Types of tinea	Tight clothing		Humidity		Heat		Total	
	No.	%	No.	%	No.	%	No.	%
Tinea corporis	39	5.1	92	11.9	178	23.1	309	40.1
Tinea capitis	34	4.4	91	11.8	160	20.8	285	37.0
Tinea pedis	8	1.0	4	0.5	19	2.5	31	4.0
Tinea cruris	5	0.6	21	2.7	20	2.6	46	6.0
Tinea faciei	9	1.2	6	0.8	13	1.7	28	3.6
Tinea unguium	1	0.1	4	0.5	18	2.3	23	3.0
Tinea manuum	2	0.3	6	0.8	2	0.3	10	1.3
Tinea barbae	5	0.6	6	0.8	8	1.0	19	2.5
Tinea incognito	7	0.9	5	0.6	8	1.0	20	2.6
Total	110	14.3	235	30.5	426	55.3	771	100.0

Table 12: Distribution of fungal infections regarding relieving factors among the study sample.

Types of tinea	Loose clothing		Dry skin		Cooling		Total	
	No.	%	No.	%	No.	%	No.	%
Tinea corporis	45	5.8	86	11.2	178	23.1	309	40.1
Tinea capitis	36	4.7	91	11.8	158	20.5	285	37.0
Tinea pedis	11	1.4	7	0.9	13	1.7	31	4.0
Tinea cruris	2	0.3	11	1.4	33	4.3	46	6.0
Tinea faciei	5	0.6	10	1.3	13	1.7	28	3.6
Tinea unguium	6	0.8	7	0.9	10	1.3	23	3.0
Tinea manuum	0	0.0	3	0.4	7	0.9	10	1.3
Tinea barbae	0	0.0	9	1.2	10	1.3	19	2.5
Tinea incognito	3	0.4	10	1.3	7	0.9	20	2.6
Total	108	14.0	234	30.4	429	55.6	771	100.0

Table 13 shows the aggravating and relieving environmental factors reported by patients. Heat was the commonest aggravating factor (55.3% overall; tinea corporis 23.1%, tinea capitis 20.8%), followed by humidity (30.5%) and tight clothing (14.3%). Correspondingly, cooling was the most frequently reported relieving factor (55.6%), followed by dry skin (30.4%) and loose clothing (14.0%).

5. DISCUSSION

The overall prevalence of fungal infection among dermatology attendees in this study was 3.195%, with tinea corporis (1.280%) and tinea capitis (1.181%) predominating and Mosul General Hospital showing the highest site-specific prevalence (3.395%). This pattern is broadly consistent with reports from Al-Najaf City, where tinea corporis was likewise the leading dermatophytosis^[11], but contrasts with a higher overall fungal detection rate reported from Egypt^[12] and with the

predominance of tinea capitis reported from Al-Anbar^[13] and Basrah^[14]; such differences likely reflect variation in sample composition, climate, and study period.

Children aged 1-9 years showed the highest infection rate (37.5%), driven largely by tinea capitis (258 cases), plausibly related to close contact with animals, playing on contaminated soil, and shared items at school, consistent with an Eritrean study reporting tinea capitis in 76% of affected children.^[15] Males predominated among tinea capitis cases (25.3%), while females predominated among tinea corporis cases (21.8%), a pattern that parallels findings from Ethiopia^[16], although a study from Addis Ababa reported a different sex distribution, likely reflecting differences in healthcare-seeking behavior and local demographic composition.^[17]

Table 13: Aggravating and relieving environmental factors associated with tinea infection.

Factor	Aggravating factor		Relieving factor	
	No.	%	No.	%
Clothing (tight/loose)	110	14.3	108	14.0
Humidity / Dry skin	235	30.5	234	30.4
Heat / Cooling	426	55.3	429	55.6
Total	771	100.0	771	100.0

Rural residents accounted for 55.0% of cases, consistent with studies from Basrah^[18], Diyala^[19], and Nigeria^[20] that similarly linked rural residence to poor hygiene, overcrowding, and limited healthcare access, and with a Saudi study identifying rural residence as a positive predictor.^[21] Tinea corporis was the leading infection among both single (68.7% of the sample) and married patients and was most frequent among housewives and employees, while tinea capitis was concentrated among children and students; this diverges from a Hillah study reporting a majority of infections among married individuals^[22], while educational-level distribution likewise differed from an Ethiopian study in which secondary-school attendees predominated^[23], underscoring the role of schooling in disease spread among children.^[24]

Animal contact was the leading source of infection (54.9%), higher than reported from Al-Najaf and Tehran, possibly reflecting the larger proportion of rural and pediatric participants in the present sample.^[25] Itching was the dominant symptom (48.8%), similar to a Baghdad study (52.5%).^[26] and heat and cooling were, respectively, the leading aggravating and relieving factors, underscoring the influence of environmental and lifestyle conditions on disease activity, including fomite transmission through clothing, bedding, and towels^[27] and tight clothing use, reported in about a third of patients in an Indian cohort.^[28]

6. CONCLUSION AND RECOMMENDATIONS

This study provides a comprehensive assessment of dermatophyte infections among 771 patients attending dermatology consultation units in Mosul City. The overall prevalence was 3.195%, with tinea corporis (40.1%) and tinea capitis (37.0%) as the leading types; tinea capitis predominantly affected children aged 1-9 years and males, while tinea corporis was more common among females and adults. Rural residence, animal contact, and heat exposure were the principal factors associated with infection, and itching was the most frequent symptom, with minimal severe complications reported. Dermatophyte infection, therefore, remains a significant public health problem in Mosul city, disproportionately affecting children and rural populations.

Accordingly, public health awareness campaigns targeting high-risk groups (children and rural populations), promotion of personal hygiene and avoidance of sharing personal items; strengthening of diagnostic and treatment infrastructure, including

restriction of potent topical steroids to prescription-only use; and longitudinal research into the causes of recurrence and antifungal resistance are recommended to reduce the burden of dermatophyte infection in the region.

REFERENCES

- Vos T, Abajobir AA, Abate KH, et al. Global, regional, and national incidence, prevalence, and years lived with disability for 328 diseases and injuries for 195 countries, 1990-2016: a systematic analysis for the Global Burden of Disease Study 2016. *Lancet*, 2017; 390(10100): 1211-1259.
- Powell J, Porter E, Field S, O'Connell NH, Carty K, Dunne CP. Epidemiology of dermatomycoses and onychomycoses in Ireland (2001-2020): A single-institution review. *Mycoses*, 2022; 65(6): 533-541.
- Baumgardner DJ. Fungal infections from human and animal contact. *J Patient Cent Res Rev*, 2017; 4(2): 78-89.
- Mohammad K, Ismail H, Shekhany K, et al. Fungal disease incidence and prevalence in Iraq. *J Med Mycol*, 2024; 34: 101516.
- Alshehri BA, Alamri AM, Rabaan AA, Al-Tawfiq JA. Epidemiology of dermatophytes isolated from clinical samples in a hospital in Eastern Saudi Arabia: a 20-year survey. *J Epidemiol Glob Health*, 2021; 11(4): 405-412.
- Ali Shtayeh MS, Arda H. A study of tinea capitis in Jordan (West Bank). *J Trop Med Hyg*. 1986; 89: 137-141.
- Kruithoff C, Gamal A, McCormick TS, Ghannoum MA. Dermatophyte infections worldwide: increase in incidence and associated antifungal resistance. *Life (Basel)*, 2023; 14(1): 1.
- Centers for Disease Control and Prevention. Risk factors for fungal diseases. Available from: <https://www.cdc.gov/fungal/risk-factors/index.html>
- van Zuuren EJ, Fedorowicz Z, El-Gohary M. Evidence-based topical treatments for tinea cruris and tinea corporis: a summary of a Cochrane systematic review. *Br J Dermatol*, 2015; 172: 616-641.
- Sardana K, Gupta A. Rationale for drug dosimetry and duration of terbinafine in the context of recalcitrant dermatophytosis: is 500 mg better than 250 mg OD or BD? *Indian J Dermatol*, 2017; 62: 665-667.
- Rasool AR, Kamil AM, Abbas DM. An epidemiological study of tinea corporis in Al-Najaf city. *Maaen J Med Sci*, 2024; 3(3): Article 1.
- Shimaa A, Ouf S, Moussa T, Eltahlawi S.

- Dermatophytes and other associated fungi in patients attending to some hospitals in Egypt. *Braz J Microbiol*, 2015; 46: 799-805.
13. Mohammad MJ. Epidemiological study of dermatophytes spread in Anbar Governorate. *Int Tinnitus J*, 2023; S1: 80-86.
 14. al-Duboon AH, Muhsin TM, al-Rubaiy KK. Tinea capitis in Basrah, Iraq. *Mycoses*. 1999; 42(4): 331-333.
 15. Qelit Y. Prevalence of ringworm or dermatophytosis, a retrospective study of age-related infections among patients attending Halibet National Referral Hospital's dermatological clinic from 2014-2018 in Asmara, Eritrea. *J Dermat Cosmetol*, 2023; 7(1): 9-11.
 16. Alemayehu A, Minwuyelet G, Andualem G. Prevalence and etiologic agents of dermatophytosis among primary school children in Harari Regional State, Ethiopia. *J Mycol*, 2016.
 17. Teklebirhan G, Bitew A. Prevalence of dermatophytic infection and the spectrum of dermatophytes in patients attending a tertiary hospital in Addis Ababa, Ethiopia. *Int J Microbiol*, 2015; 2015: 653419.
 18. Al-Janabi JK, et al. Prevalence and risk factors of dermatophyte infections among primary school children in Basrah. *Int J ChemTech Res*, 2017; 10(6): 827-837.
 19. Diyala (Iraq), Iraq. *Mycoses, Dermatophytes, Ringworm, Gender, Cities & Towns, Rural Geography*. *Indian J Forensic Med Toxicol*, 2020; 14(2): 1717.
 20. Ayanlowo O, Akinkugbe A, Oladele R, Balogun M. Prevalence of tinea capitis infection among primary school children in a rural setting in South-West Nigeria. *J Public Health Afr*, 2014; 5(1): 349.
 21. Amin TT, Ali A, Kaliyadan F. Skin disorders among male primary school children in Al Hassa, Saudi Arabia: prevalence and socio-demographic correlates - a comparison of urban and rural populations. *Rural Remote Health*, 2011; 11(1): 1517.
 22. Alzahraa F, Al-Janabi J, Alhattab M. Prevalence of dermatophyte fungal infection in Hillah, Iraq. *Int J ChemTech Res*, 2017; 10: 827-837.
 23. Ali Dawa M, Tesfa T, Weldegebreal F. Mycological profile and its associated factors among patients suspected of dermatophytosis at Bisidimo Hospital, Eastern Ethiopia. *Clin Cosmet Investig Dermatol*, 2021; 14: 1899-1908.
 24. Alemu TG, Alemu NG, Gonete AT. Tinea capitis and its associated factors among school children in Gondar town, northwest Ethiopia. *BMC Pediatr*, 2024; 24(1): 448.
 25. Hassanzadeh Rad B, Hashemi SJ, Farasatinasab M, Atighi J. Epidemiological survey of human dermatophytosis due to zoophilic species in Tehran, Iran. *Iran J Public Health*, 2018; 47(12): 1930-1936.
 26. Alsarray A, Adnan Rasheed Q, Kurwey S. Clinical study of dermatophytosis among a sample of patients attending to Imamein Kadhimein Medical City, 2025; 1: 107-117.
 27. Cai W, Lu C, Li X, Zhang J, Zhan P, Xi L, et al. Epidemiology of superficial fungal infections in Guangdong, southern China: a retrospective study from 2004 to 2014. *Mycopathologia*, 2016; 181(5-6): 387-395.
 28. Pathania S, Rudramurthy SM, Narang T, Saikia UN, Dogra S. A prospective study of the epidemiological and clinical patterns of recurrent dermatophytosis at a tertiary care hospital in India. *Indian J Dermatol Venereol Leprol*, 2018; 84: 678-684.