

## The prevalence of Scabies in patients of Wasit Province, Iraq

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### Abstract

This study was conducted in Wasit Province, Iraq, to evaluate the incidence of scabies among patients from both genders at different ages (one year to over 60 years old). The study was performed on 100 patients, who visited the Dermatology Clinic in Al-Karama Teaching Hospital, during the period from January, 2021 to April, 2021. Scabies was diagnosed in 100 (100%) patients. Significantly ( $p \leq 0.05$ ) higher rates (20.11% and 20.5%) of scabies were observed among age groups (11-20 and 21-30 years, respectively); however, the incidence rate was significantly ( $p \leq 0.05$ ) decreased in correlation with the increase in the age of patients. Moreover, the urban residence showed significantly ( $p \leq 0.05$ ) higher incidence rates (75%) when compared to those recorded in the patients from rural residence (25%). Furthermore, 60 (60%) patients caught the infestation at home, and 40 (40%) patients acquired the infestation outside. This study provides some important data about the disease situation in Wasit Province, Iraq.

**Keywords:** Incidence, Scabies, Socioeconomic factors.

### Introduction :

Scabies is one of the world's most common skin disorders, especially in desperately poor areas. Scabies affects more than 100 million people globally (1). *Sarcoptes scabiei* var. *hominis* is the organism that causes scabies. Scabies is prevalent in tropical areas, where the illness burden is greatest. In reaction to a few mites, the host's immune system mounts a strong itching response that causes the mites to burrow deeper into the epidermis than can be seen with the human eye (2). Scabies is spread through direct contact between infected people and contaminated clothes, bedding, or other household objects that are shared by sick individuals. At room temperature (21°C) and relative humidity (40–80%), mites may live without a host for 24–36 hours. Adults and older children's hands, elbows, nipples, penises, buttocks, and the spaces between their fingers are all common areas for scabies to infest (3,4).

Patients with Scabies often have erythema-based lesions, papules, pustules, and vesicles and need prescribed scabicial treatments in order to manage the disease (5,6).

Tropical nations, where scabies is widespread, suffer the majority of the disease's impact. Scabies is more prevalent in populations with little resources and congested living space. Some investigations have shown a greater frequency in urbanized locations and throughout the winter months (7,8). As a result of inmates spreading the illness, Scabies seems to have grown widespread in Iraq in recent years. Infected prisoners may spread the disease to the members of their families who visit them in jail (9).

Additionally, socioeconomic characteristics, sex, age, family size, and sanitary conditions might alter the Scabies pattern (10,11). Thus, a research was carried out to determine the incidence rates of Scabies in Wasit Province.

### Materials and methods :

From January, 2021 to April, 2021, a retrospective study was conducted at the Dermatology Clinic at Al-Karama Teaching Hospital in Iraq's Wasit Province. Traditional criteria were used to diagnose scabies

cases. There were a total of 100 patients, 44 of whom were men, and 56 of whom were females, ranging in age from one year to 80 years old, who participated in the research. A dermatologist conducted the examinations and made the final diagnoses for each of the patients. Itching sensations and physical examination were used to make an assumption that the patient had scabies. Each patient's whole body was inspected.

**Skin scraping microscope examination :**

Recognition of mites, eggs, and eggshell pieces from scrapings of skin (for example, from scabietic papules or beneath the fingernails) or the presence of the mites at the extremity of its tunnel is required for a conclusive confirmation of scabies. After applying a few drops of mineral oil to the lesion and scraped or shaving it, the samples were viewed under a low-power light microscope after washing in 10% KOH (12).

**Statistical test :**

Software package for social studies (SPSS) version 19 was utilized to perform the statistical analysis. The categorical variables were presented as numbers and percentages.

**Results :**

Scabies was diagnosed in 100 (100%) patients. Significantly ( $p \leq 0.05$ ) higher rates (20.11% and 20.5%) of scabies were observed among age groups (11-20 and 21-30 years, respectively); however, the incidence rate was significantly ( $p \leq 0.05$ ) decreased in correlation with the increase in the age of patients. Moreover, the urban residence showed significantly ( $p \leq 0.05$ ) higher incidence rates (75%) when compared to those recorded in the patients from rural residence (25%) (table 1).

**Table 1:** Distribution of scabies in urban and rural regions according to gender and age groups of patients.

Age (year)	Gender	Residence		Subtotal	Total (No)	Total (%)	P value
		Urban	Rural				
10 and less	M	9	4	13	22	22%	<0.0001
	F	6	3	9			
11-20	M	12	5	17	25	25%	
	F	5	3	8			
21-30	M	9	4	13	20	20%	
	F	4	3	7			
31-40	M	4	2	6	14	14%	
	F	5	3	8			
41 and more	M	4	3	7	19	19%	
	F	9	3	12			
Total	M	38	18	100		100%	
	F	29	14				

%	-	67 (67%)	33 (33%)			
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The study findings showed significant ( $p \leq 0.05$ ) correlation between the symptoms and male gender (Table 2).

Age (year)	Gender	Type of signs		Subtotal	Total (No.)	Total (%)	P value
		Itching	Pain				
10 and less	M	9	4	13	22	22	<0.003
	F	8	1	9			
11-20	M	17	0	17	25	25	
	F	7	1	8			
21-30	M	13	0	13	20	20	
	F	6	1	7			
31-40	M	5	1	6	14	14	
	F	8	0	8			
41 and more	M	7	0	7	19	19	
	F	11	1	12			
Total	M	51	5				
	F	40	4				
%	-	91	9				

**Table 2: Distribution of the type of symptoms according to gender and age groups.**

Furthermore, 60 (60%) patients caught the infestation at home, and 40 (40%) patients acquired the infestation outside (table 3).

**Table 3: Distribution source of contact of scabies according to gender and age groups of patients.**

Age (year)	Gender	Source of contact		Subtotal	Total (No)	Total (%)	P value
		Inside home	Outside home				
10 and less	M	7	6	13	22	22	<0.02
	F	6	3	9			
11-20	M	9	8	17	25	25	
	F	6	2	8			
21-30	M	8	5	13	20	20	

	F	5	2	7		
31-40	M	2	4	6	14	14
	F	3	5	8		
41 and more	M	5	2	7	19	19
	F	9	3	12		
	M	31	25	100		100%
Total	F	29	15			
%	-	60	40			

The study, here, revealed non-significant ( $p>0.05$ ) correlation of smear samples with age category (table 4).

**Table 4: Direct smear examination according to gender and age groups of patients**

Age (year)	Gender	Direct smear examination		Subtotal	Total (No)	Total (%)	P value
		Positive	Negative				
10 and less	M	0	13	13	22	22	>0.05
	F	1	8	9			
11-20	M	3	14	17	25	25	
	F	1	7	8			
21-30	M	2	11	13	20	20	
	F	0	7	7			
31-40	M	1	5	6	14	14	
	F	0	8	8			
41 and more	M	0	7	7	19	19	
	F	0	12	12			
Total	M	6	50				
	F	2	42				
%	-	8	92				

The study, here, revealed significant ( $p\leq 0.05$ ) correlation of increasing infestation to the fingers and genital areas with the increase in age (table 5).

**Table 5: Distribution of location of infestation in body according to gender and age groups of patients**

Age	Gender	Cite of infection				Total (No)	Total (%)	P value
		Arm	Leg	Finger	Abdomen			

(year)						Genital area			
10 and less	M	1	2	5	1	4	22	22	
	F	0	3	2	4	0			
11-20	M	5	1	4	2	5	25	25	
	F	1	0	3	4	0			
21-30	M	2	1	5	2	3	20	20	
	F	0	0	2	3	2			
31-40	M	2	1	2	0	1	14	14	
	F	3	0	2	3	0			
41 and more	M	0	1	3	1	2	19	19	
	F	1	0	3	2	6			
Total	M	10	6	19	6	15	100	100%	
	F	5	3	12	16	8			
%	-								

**Discussion :**

Wasit province, Iraq, has the greatest incidence of scabies in the 11-20-year-old age group, followed by the 10-year-old and younger age groups. People's lifestyles, habits, overcrowding, and socio-economic position may all play a role in the variance. Women were more likely to have scabies (56%) than men (44%) according to the research. There were 13.5 percent and 8.6 percent of the 11194 scabies patients in Iraq's Tikrit Governorate in 2009 who were male and female accordingly, according to Alsamarai, (2009) (13). There were 58 (59.8%) men and 39 (40.2%) women among the 97 Scabies patients studied by Sharquie, (2012) (14) in Baghdad, Iraq.

Other studies have shown that women over the age of 25 are more likely to be impacted, but there was no substantial variation in the incidence by sex for all ages in our research showing no matching with a study performed in other countries, such as from India (15,16). Rural regions had a 62.3 percent scabies illness rate, whereas urban areas had a 37.7 percent scabies infection rate. There is conflict between these findings and those of Hegab *et al.*(2015) (17). In Kafr El-Sheikh, Egypt, 862 (41 percent) of the 2104 students afflicted with scabies resided in urban areas, while 1242 (59 percent) lived in rural regions (17).

Scabies was more common among adults than among children. In general, this research found that adult women were more likely than adult men to get scabies infestation, which is consistent with findings from other nations. The frequency of scabies is not influenced by sex, race, or age, according to observational research, and deprivation and overcrowding in living seem to be the most common causes of scabies (18).

Laboratory screening for scabies has progressed far beyond light microscopic approaches, such as the epiluminescence microscopy, ELISA for the identification of antigen - antibody, and the invention of standard and real-time quantitative polymerase chain (qPCR) test (19).

**Conclusion :**

This study provides some important data about the disease situation in Wasit Province, Iraq. In general, this research found that adult women were more likely than adult men to get scabies infestation

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