



Prevalence and Severity Study of Scabies (*Sarcoptes scabiei*) in Al-Muthanna Governorate, Iraq

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Abstract

Objective: The present study aims to identify the number, gender and location of individuals infected with scabies in Al-Samawah city ,which is a widespread ectoparasitic infectious skin condition that is especially prevalent in developing nations during the period from October 2023 to March 2024 in Al-Muthanna Governorate, Iraq.

Materials and Methods: This survey study was conducted at Al-Samawah City's Al-Hussein Hospital, which comprised a total of 56 scabies-infected patients, both male and female. All patients with *Sarcoptes scabiei*-caused scabies were diagnosed based on a physical examination and affected skin inspection. Where burrows were observed that formed by mites inside the skin are the characteristic sign of scabies. A complete questionnaire regarding patients demographic characteristics was taken about: age, sex and residence from hospital records.

Results: From a total of 56 patients were infected with scabies, males were equally affected as females in this study ,where it did not show any difference in infection between the sexes and there were 23 patients (41.07%) from them lived in urban areas and 33 patients (58.92%) lived in rural areas. The age group (10-19) years were the highest prevalence of scabies (26.78%),But (60-65)years it was the least (1.78%).

Conclusions: Despite the development the world has achieved In all fields, scabies still represents a common skin problem in Iraq. Enhancing socioeconomic and sanitary circumstances, encouraging more effective health services, and providing social health education can all help lower the infestation's incidence and in order to avoid outbreaks, a much increased financial burden, and significant morbidity, early detection of scabies is crucial.

Keywords: Scabies, Al-Muthanna Governorate ,Iraq

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المؤلف المراسل

معلومات البحث

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دراسة انتشار الجرب (*Sarcoptes scabiei*) في محافظة المثنى، العراق

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المستخلص

الهدف: تهدف الدراسة الحالية إلى التعرف على عدد وجنس وموقع الأفراد المصابين بالجرب في مدينة السماوة، وهو مرض جلدي معددي طفيلي خارجي منتشر على نطاق واسع وخاصة في الدول النامية خلال الفترة من أكتوبر 2023 إلى مارس 2024 في محافظة المثنى، العراق.

المواد والطرق: أجريت هذه الدراسة في مستشفى الحسين بمدينة السماوة، والتي شملت 56 مريضاً مصاباً بالجرب، من الذكور والإناث. تم تشخيص جميع المرضى المصابين بالجرب الناجم عن *Sarcoptes scabiei* بناءً على الفحص البدني وفحص الجلد المصاب. حيث لوحظت جحور مكونة من العث داخل الجلد وهي العلامة المميزة للجرب. تم أخذ استبيان كامل حول الخصائص الديموغرافية للمرضى حول: العمر والجنس والإقامة من سجلات المستشفى .

النتائج: من اجمالي 56 مريضاً مصاباً بالجرب كان الذكور متأثرين بنفس القدر كما هو الحال بالنسبة للإناث في هذه الدراسة حيث لم يظهر اي فرق في الاصابة بين الجنسين وكان هناك 23 مريضاً (41.07%) منهم يعيشون في المناطق الحضرية و 33 مريضاً (58.92%) يعيشون في المناطق الريفية. كانت الفئة العمرية (10-19) سنة هي الأعلى انتشاراً للجرب (26.78%) ولكن (60-65) سنة كانت الأقل (1.78%).

الاستنتاجات: على الرغم من التطور الذي حققه العالم في كافة المجالات، لا يزال الجرب يمثل مشكلة جلدية شائعة في العراق. إن تحسين الظروف الاجتماعية والاقتصادية والصحية، وتشجيع الخدمات الصحية الأكثر فعالية، وتوفير التنقيف الصحي الاجتماعي، كلها عوامل يمكن أن تساعد في خفض معدل الإصابة، ومن أجل تجنب تفشي المرض وزيادة العبء المالي بشكل كبير، فإن الكشف المبكر عن الجرب أمر بالغ الأهمية.

الكلمات المفتاحية: الجرب، محافظة المثنى، العراق

Introduction

Sarcoptes scabiei var hominis is a parasite belonging to the family Sarcoptidae and class Arachnida, subclass Acari that causes a disease called human scabies [1]. Among the most prevalent skin conditions in the world, especially in underdeveloped nations, is scabies [2]. It is believed that there are about 200 million scabies patients in the world [3,1]. In areas with limited resources, scabies is thought to infect 5–50% of youngsters [1]. Scabies mites are often spread through prolonged skin-to-skin contact, lasting at least twelve minutes [4]. But for crusted scabies, where the skin is covered in millions of mites, brief contact with patients and contaminated objects is enough [5,6]. Strong itching, which can be incapacitating and intensifies at night, and skin inflammation are the main signs of a scabies infection[7]. Itching has been shown to impact patients' everyday activities in several ways and can cause moderate to severe sleep disturbances in the majority of patients [8]. Where it significantly affects for infected individuals in terms of the cost of treatment, missed work or school, and psychological effects [9]. When the skin's protective barrier is compromised, secondary bacterial infections are encouraged, in severe cases these infections can result in more serious and sometimes fatal consequences by lead to heart and kidney illnesses [10,11]. Males and females of all ages can contract scabies, which is prevalent in tropical nations and among impoverished rural residents [12]. Furthermore, the illness is a type of

skin infection that can have a negative impact on one's health, and outbreaks are more likely to occur in places where large numbers of people live in close quarters[13,14]. Despite the fact that scabies had previously been regarded as a neglected disease, but it was first listed as a neglected tropical ailment by the World Health Organization in October 2013[15,16,17]. Since scabies cannot be eradicated, the only way to lessen the disease's burden is to limit morbidity[18]. Scabies and all other parasite infections continue to be significant issues in our tropical country, notwithstanding recent socioeconomic and cultural advancements. We think that early identification for the disease and increased public awareness will lead to protection from Parasitic skin infestations especially scabies. Thus, the purpose of this study was to investigate the prevalence of scabies in infected patients with *Sarcoptes scabiei* in Al-Samawah City of Al-Muthanna Governorate, Iraq.

Materials and Method

This survey study was conducted at Al-Samawah City's Al-Hussein Hospital. During the period from October 2023 to March 2024 that comprised a total of 56 scabies-infected patients, both male and female, age ranges between Less than 10y. to 65y. old lived in urban and rural areas. All patients with *Sarcoptes scabiei*-caused scabies were diagnosed based on a physical examination and affected skin inspection. Where burrows were observed that

formed by mites inside the skin are the characteristic sign of scabies. A complete questionnaire regarding patients demographic characteristics was taken about: age, sex and residence from hospital records.

Results

Of the 56 individuals with *Sarcoptes scabiei* infections, 28 (50%) were male and 28 (50%) were female as shown in Table (1).

Table (1): Shows the numbers and percentages of infection according to gender

Sex	Numbers of Infections	Percentage
Male	28	50%
Female	28	50%
Total	56	100%
Calculated X^2	0	
Calculated P	1(No significant)	

Their ages ranged from 10 to 65 years ,The age group (10-19) years were the highest prevalence of

scabies (26.78%),But (60-65)years it was the least (1.78%) as show in Table (2).

Table (2): Shows the numbers and percentages of infection by age groups

Age Groups	Numbers of Infection	Percentages
Less than 10 years	10	17.85%
10-19	15	26.78%
20-29	7	12.5%
30-39	11	19.64%
40-49	10	17.85%
50-59	2	3.57%
60-65	1	1.78%
Calculated X^2	22.16	
Calculated P	0.001(Highly significant)	

On the other hand, rural citizens had higher prevalence of scabies (58.92%), while urban ones had (41.07%) but no significant difference

between both at the probability level($P \leq 0.05$) as show in Table (3).

Table (3): Shows the numbers and percentages of infection according to areas of residence

Area	Numbers of Infections	Percentage
Urban	23	41.07%
Rural	33	58.92%
Calculated X^2	3.57	
Calculated P	0.059(No significant)	

Discussion

One of the most serious skin infections is scabies, which is brought on by *Sarcoptes scabiei*. Early detection and timely treatment of infected people are crucial since delayed diagnosis can lead to epidemics, severe morbidity, and a much higher financial burden [19]. The World Health Organization acknowledged the need for a worldwide scabies control strategy that would support the Sustainable Development Goals of the UN, such as Target 3.3, which calls for the eradication of the neglected tropical disease epidemic by 2030 [15,20]. Out of the 56 individuals in this study, 28 (50%) were male and 28 (50%) were female scabies sufferers. In this study, males and females were equally impacted where it did not show any difference between the sexes. In Iraq, These results are not consistent with Sharquie and his colleagues [21] in Baghdad Governorate , where proved that Of the 97 patients with scabies, 39 (40.2%) were female and 58 (50.8%) were male. while in Al-Najaf Governorate, Mohy and his co-workers, found that 602 (54.1%) of the 1112 patients who had scabies were men, and 501 (45.9%) were women [22] and in the same year Aljanaby and his co-workers found in Al-Kufa City that of the total number of infected patients, 239 were male and 203 were female, with respective prevalences of 54% and 46% [23].As for Al-Diwaniyah Governorate, Al-Difaie et al. [24] recoded that male patients

represent (62.5%) compared with (37.5%) females, Also in Erbil, the infection rate for males was higher than for females [18]. But, According to Nair et al. [25], our findings support their assertion there is no significant difference between the sexes in terms of infection , Where they registered in Gujarat, India that there were 50 patients (49.01%) were females and 52 patients (50.98%) were males in that state. Additionally, Mason et al. [26] showed that of the 515870 scabies cases in Solomon Islands, 51.3% were men and 48.7% were women .

Although it can happen at any age, scabies is most common in children and young people [27]. In our investigation, The age group (10-19) years had the highest prevalence rate (41.7%), while the age group (60-65 years) was the lowest with a percentage of (1.78%).School-age children's high scabies prevalence may be caused by the crowded classrooms, more opportunities for social interaction, and playgrounds also these may be related to social factors, family size, and habits agents rather than inherent susceptibility to be injured. This result agreed with other studies [28, 29,30, 24], but this does not agree according to Mohy's research, people aged 31 to 40 were the most frequently infected with scabies [22], while in Ali et al.[18] study, out of 107 scabies patients, Over half of them were under 30 years old, and their ages ranged from 16 to 70 years .

The prevalence of many bacterial and parasite

illnesses is almost higher in rural areas; this could be because absence adequate healthcare and health knowledge for the disease [31,32]. Our results indicated that rural areas were more infected with scabies than urban areas, at a rate of 58.92% and 41.07%, respectively, although the observed difference was not statistically significant at the probability level ($P \leq 0.05$). These results are in agreement with [22] where he indicated that 693 patients (62.3%) lived in rural areas, whereas 419 patients (37.7%) lived in urban areas in Najaf governorate. Additionally, Rana and her co-workers noted that scabies is more common outside of the city center in the districts and suburbs of the Al-Diwaniyah Governorate [24]. In other studies outside Iraq, it has also been proven when Hegab et al. [33] in Egypt, recorded that 862 (41%) of the 2104 schoolchildren who had scabies lived in urban areas, while 1242 (59%) lived in rural regions of Kafr El-Sheikh. Additionally, Walker et al. [34], in southern Ethiopia, demonstrated that residents of congested, low-quality regions had higher rates of scabies infection than residents of high-quality areas. Although scabies is a neglected disease, the World Health Organization has not yet created official measures to control it in developing nations [35]. Therefore, to stop the spread of this disease, we therefore need greater health awareness campaigns and medical care in emerging nations, especially in rural regions.

Conclusion

Despite the development the world has achieved in all fields, scabies still represents a common skin problem in Iraq. Enhancing socioeconomic and sanitary circumstances, encouraging more effective health services, and providing social health education can all help lower the infestation's

incidence and in order to avoid outbreaks, a much increased financial burden, and significant morbidity, early detection of scabies is crucial.

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