Electronic Journal of University of Aden for Basic and Applied Sciences
EJUA-BA Vol. 3 No. 4 (2022)
https://doi.org/10.47372/ejua-ba.2022.4.200
ISSN: 2708-0684

RESEARCH ARTICLE

PREVALENCE OF SCABIES CASES IN TWO PUBLIC HOSPITALS ADEN / YEMEN

Ekram Ali Badwi[1,*] and Seena Abdulla Yousuf[2]

[1] *Dept. of Dermatology & Venereology, Faculty of Medicine and Health Sciences, University of Aden, Yemen*
[2] *Dept. of Community Medicine & Public Health, Faculty of Medicine and Health Sciences, University of Aden, Yemen*

***Corresponding author: Ekram Ali Badwi; E-mail: ekbadwi@gmail.com**

Received: 18 November 2022 / Accepted: 18 December 2022 / Published online: 31 December 2022

Abstract

Scabies has become a major public health problem, especially in low resource settings. In this area no previous study regarding scabies prevalence and associated risk factors have been conducted. Therefore, this study was carried. The aim of this study to provide data on the position of scabies with regard to prevalence and the factors related to it and to recommended measures for prevention and control of infestation. A cross-sectional study carried out over a period of 6 months from 1 January to 30 June 2022 in dermatology outpatient clinic of two main teaching hospitals Al-Gamhoria and Al-Wahda, in Aden Government. Out of total of 2575 patients examined, 90 had scabies (3.4%) with highest prevalence rate in children aged 8- 15 years (27.8%). The infection was higher in males than females (57.8 % vs 42.2 %). The present study concludes that poor socio-economic conditions, such as illiteracy, overcrowding and sharing room, joblessness have a statistically significant relation with scabies. In addition, to family history of itchy skin lesions.

Keywords: Scabies, Prevalence, Socio–economic, Aden.

Introduction

Scabies is a neglected contagious skin disease caused by the microscopic mite, Sarcoptessabiei var. hominis [1]. The exact number of infected cases worldwide is not known, but is estimated to be up to 300 million [2].

It can cause various problems in different organs and tissues [3-6] and at the mental and social level in sick people in other words, the complication and secondary effects of scabies cause a huge public health burden [7, 8].

Scabies, which is included in the group of neglected tropical diseases by WHO (World Health Organization), is mainly transmitted through direct contact or fomites. Sociodemographic, socioeconomic, biodemographic, and environmental factors are effective in transmission of the parasite [3, 4, 9, 10].

Recognized risk factors of scabies are close contact with an infested relative and acquired immune deficiencies for hyperkeratosis forms [11]. A range of other risk factors have been proposed, most of them being direct or indirect indicators of poverty at the community or infra-community level [12]. However, despite abundant literature on the epidemiology of scabies in developing countries [2, 12, 13]. The relative importance of the fore mentioned risk factors has been infrequently investigated. Hence, this study was aimed to determine the prevalence of scabies and the factors affecting the scabies disease among patients who applied to the dermatology outpatient clinic of two main teaching hospitals in Aden Yemen.

Methodology:

Study design and setting:

A Hospital based cross-sectional study was conducted with the patients who are attended to the dermatological outpatients clinic in Al-Gamhoria and Al-Wahda teaching hospitals between January to June 2021; Aden Governorate, Yemen.

Study Population:

All patients attended the dermatological department of Al- Gamhorria and Al-Wahda teaching hospitals and suspected as the first diagnosis to have scabies.

Data collection and Tools used:

Socio-demographic characteristics and other related fac-

tors were collected using structured questionnaire by authors. Structured questionnaire was used to interview patients and parents of children in the clinic. Physical examination was undertaken on respondents who had itchy papular skin rash by dermatologist, and experienced doctors.

To ensure quality of data, questionnaire was prepared in English language, translated to Amharic and re translated back to English by other person who can speak both languages. To make sure that the questionnaire is appropriate and understandable; it was pre-tested on 15 patients.

Data analysis:

Data was collected directly from the patients, parents and or relatives by experienced doctors.

Data was done by computerized system entered, coded, cleaned and analyzed using Statistical Package for Social Sciences (SPSS) version 15 "SPSS program" and analysis into frequency and percentage distribution that were represented in statistical tables.

The Chi Square test were used, with the level of significance was at or less than 0.5%. In the univariate analysis a descriptive statistics was conducted to explore frequency distribution, central tendency, variability (dispersion) and overall distribution of independent variables.

Ethical considerations:

- The study was approved by "the Committee of Research and Postgraduate Studies, Faculty of Medicine and Health Science, Aden University".
- Oral approval consents were obtained from all patients before enrolling them into the study, after providing them detailed explanation of the objectives, methods, and benefits of the study. The information obtained from the patients were confidentially handled and used only for this research purposes.

Results

Out a total of 2575 patients attended dermatologic out patients of the two main hospitals of Aden governorate, 90 cases (3.4%) suspected scabies. Of this total (57.8%) were males and (42.2%) were females, no statistically significant relation between the sex of the patients and the positive finding of scabies was exist (df = 1, χ^2 = 0.343, P = .558), the age was ranged from 2-70 years old with mean 21.5 ± 15.9 years old. Age group 8-15 year old was the most prevalent group (27.8%). There is no statistically significant relation between the age group of the patients and the presence of scabies (df = 4, χ^2 = 0. 851, P = .932). The educational level of the fathers and mothers of the patients it was found that the majority of the parents were low educational level (74.4% among patients or parents). There was statistically significant relation between the scabies infestation and the educational level of both fathers and mothers. The patients in the study were from all districts in Aden, with about 67.7% only from Al- Shaikh Othman and Dar-Saad districts. More than half of them not working either house wife or children Table 1.

Table 1: Socio-demographic characteristics of patients. Al- Gamhoria and Al-Saddaka teaching hospitals, 2021(N = 90)

Item	№	%
- Sex:		
Male	52	57.8
Female	38	42.2
- Age groups:		
< 8 years old	19	21.1
8 -15 years old	25	27.8
16 – 23 years old	13	14.4
24 – 31 years old	13	14.4
≥ 32 years old	20	22.2
Mean ± SD (Min. – Max.)	21.5 ± 15.9 (2 – 70)	
Educational level of the patients and/or their parents:		
Low educational level	67	74.4
High educational level	23	25.6
- District:		
Seera	14	15.6
Al-Mualla	5	5.6
Al-Tawahi	1	1.1
Al- Shaikh Othman	31	34.4
Al-Buriqua	6	6.7
Dar-Saad	33	36.6
Occupation:		
Not working	65	72.2
Workers	25	27.8

Home and hygienic characteristics of the patients was asked and the results shown in table 2. As we found that (36.7%) of patients living in one rooms was more than 4 persons, there was statistically significant relation between the number of patients living in one room in the home and the family history of scabies (df = 2, χ^2 = 14. 246, P = .001). The number of family members at home different, about 85.6% of the patients their family size 5 members and more. There is a statistically significant relation between the number of persons in the family and the presence of scabies infestation in the family (df = 2, χ^2 = 21. 612, P = .000). The hygienic status of the patients was 94.4% wash daily, there is no statistically significant relation between the frequency of washing among patients and scabies infestation (df = 2, χ^2 = 0. 814, P = .665).

Table 2: Home and hygienic characteristics of the patients. Aden, 2021 (N = 90)

Item	№	%
- Number of the persons in one the room at home:		
1-2	32	35.6
3-4	25	27.8
>4	33	36.7
-Number of family members at home:		
Less 5	13	14.4
5 member & more	77	85.6
Mean ± SD (Min. – Max.)	7.3 ± 3.8 (2 – 70)	
- Frequency of washing among patients		
Weekly	1	1.1
Daily	85	94.4
Not regular daily	4	4.4

Patients distribution according to the age group is shown in table 3 where we classified the patient into two groups up to 15 years (42.2%) and more than 15 years old (57.8%), we found that majority of patients up to 15 were males (31.1%) and those more than 15 majority were females (31.1%). By applying the chi square test to see if there is any statistical relation between the age group and the sex of the patients, it was found that this deference was statistically significant ($\chi 2$ test = 6.821 with 1 df p= 0.009).

Table 4. Show us the relation between numbers of persons in one room in the home and family history of scabies in both age group. It is found that it is statistically significant among group Up to 15 ($\chi 2$ test = 7.833 2df p= 0.020) and at border line for age group more than 15 ($\chi 2$ test = 5.937 2df p= 0.051)

Table 3: Patients distribution according to the age group in relation to sex and family history. Aden, 2021 (N = 90)

Sex		**Male**	**Female**	**Total**
Age		**No. (%)**	**No. (%)**	**No. (%)**
Up to 15		28 (31.1)	10 (11.1)	38 (42.2)
More than 15 Total		24 (26.7)	28 (31.1)	52 (57.8)
Up to 15		52 (57.8)	38 (42.2)	90 (100.0)
x2 test = 6.821 1 df p= 0.009				
Age Group	**Family history**			
Up to 15	Negative	3 (7.9)	4 (10.5)	7 (18.4)
	Positive	25 (65.8)	6 (15.8)	31 (81.6)
	Total	**28 (73.7)**	**10 (26.3)**	**38 (100.0)**
More than 15	Negative	3 (5.8)	2 (3.8)	5 (9.6)
	Positive	21 (40.4)	26 (50.0)	47 (90.4)
	Total	**24(46.2)**	**28 (53.8)**	**52(100.0)**
Up to 15 $\chi 2$ test = 4.205 1df p= 0.040		**More than 15** $\chi 2$ test =.427 1df p= 0.514		

Table 4: Patients distribution according to the age group in relation to numbers of persons in one room in the home and family history. Aden, 2021(N = 90)

Age Group	**Family history**	**Number of persons in one Room**			
		1-2	**3-4**	**>4**	**Total**
		No. (%)	**No. (%)**	**No. (%)**	**No. (%)**
Up to 15	Negative	6 (15.8)	0 (0.0)	1 (2.6)	7 (18.4)
	Positive	9 (23.7)	8 (21.1)	14 (36.8)	31 (81.6)
	Total	**15 (39.5)**	**8 (21.1)**	**15 (39.5)**	**38 (100.0)**
More than 15	Negative	4 (7.7)	0 (0.0)	1 (1.9)	5 (9.6)
	Positive	13 (25.0)	17 (32.7)	17 (32.7)	47 (90.4)
	Total	**17(32.7)**	**17 (32.7)**	**18 (34.6)**	**52 (100.0)**
Up to 15 $\chi 2$ test = 7.833 2df p= 0.020		**More than 15** $\chi 2$ test = 5.937 2df p= 0.051			

The relation between number of persons in the home and family history of scabies was tested in table 5, and it is found that it is significant statistically ($\chi 2$ test = 21.612 2df P= 0.000).

Table 5: Patients distribution according to the age group in relation to number of persons in the home and family history. Aden, 2021(N = 90)

Family History	Number of persons			
	Less 5	5-8	> 8	Total
	No. (%)	No. (%)	No. (%)	No. (%)
Negative	7 (7.8)	3 (3.3)	2 (2.2)	12 (13.3)
Positive	6 (6.7)	47 (52.2)	25 (27.8)	78 (86.7)
Total	**13(14.4)**	**50 (55.6)**	**27 (30.0)**	**90 (100.0)**
$\chi 2$ test = 21.612 2df P= 0.000				

female relatives of the patients decrease with increasing the level of education and this relation was not significant statistically among fathers of patients **Up to 15 (** $\chi 2$ test = 1.211 1df p=0.27) but it was significant statistically among fathers or patients more than 15 $\chi 2$ test = 7.045 1df P= 0.008 Among mothers it was significant statistically among mother of patients up to 15 ($\chi 2$ test = 9.534 1df P= 0.002) and in the border line with mothers or patients **more than 15** $\chi 2$ test = 3.614 1df P= 0.057

As it is shown in table 6, the family history of male and

Table 6: Educational Level of Patients and Family History. Aden, 2021(N = 90)

Age Group	Family history	Male Educational Level		
		Low Education	High Education	Total
		No. (%)	No. (%)	No. (%)
Up to 15	Negative	4 (10.5%)	3 (7.9)	7(18.4)
	Positive	24 (63.2%)	7 (18.4)	31(81.6)
	Total	**28 (73.7%)**	**10 (26.3)**	**38(100.0)**
More than 15	Negative	2 (3.8%)	3 (5.8)	5(9.6)
	Positive	41(78.8%)	6 (11.5)	47(90.4)
	Total	**43 (82.7%)**	**9 (17.3)**	**52(100.0)**
Up to 15 $\chi 2$ test = 1.211 1df P= 0.27		**More than 15** $\chi 2$ test = 7.045 1df P= 0.008		
Age Group	Family history	Female Educational Level		
		Low Education	High Education	Total
		No. (%)	No. (%)	No. (%)
Up to 15	Negative	0 (0.0%)	7 (18.4)	7(18.4)
	Positive	20 (52.6%)	11 (28.9)	31(81.6)
	Total	**20 (52.6%)**	**18 (47.4)**	**38(100.0)**
More than 15	Negative	2 (3.8%)	3 (5.8)	5(9.6)
	Positive	37 (71.2%)	10 (19.2)	47(90.4)
	Total	**39 (75.0%)**	**13 (25.0)**	**52(100.0)**
Up to 15 $\chi 2$ test = 9.534 1df p= 0.002		**More than 15** $\chi 2$ test = 3.614 1df p= 0.057		

Discussion:

Epidemiological studies about scabies infestation provide valuable information about the associated risk factors and serve as a basis for selection of prevention methods and control.

According to World Health Organization data the prevalence of scabies ranges from 0.2% to 71%, [14].

In the current study, the overall prevalence of scabies was (3.4%). This finding is aligned with the results of studies done previously in Ethiopia, Iraq and Egypt with a prevalence of 2.5%, 3.3%, and 7% respectively [15-17]. However, it is lower than

studies from Pakistan (38.15%), (47.6%, Nigeria (65.0%), and Ghana (71%) [18-20]. The difference in prevalence rates could be attributed to the density of population, might be attributed to family size variation, educational status variation, and might also be related to variation in sociodemographic.

In this study, the males were prone to disease more than females (57.8 % vs 42.2%). These results are in agreement with previous study conducted in Hadhramout, Yemen were a prevalence rate among males (71.13%) vs (28.87%) among females [21]. Similarly, in study conducted in Iran, males were 53.1% and 46.9% were females [22]. In a study conducted in Iraq, men were (54.1%) vs (45.9%) were females [23] and in Liberia study also males predominance were reported (13.2% vs 6.9 % respectively [24]. The higher prevalence of scabies

in male has been previously attributed to different life-style, implying greater exposure to potential mite sources e.g. due to more intense social life in the community and the working periods far from their households [25-28].

Whereas, in other study in Iraq, males made up 42% (60 respondents) of the overall population, while females made up 58% (83 respondents) [29]. In the study conducted in rural area of Bareilly, the female represented (13.9 %) while males constituted (10.3 %) [30]. On other hand studies in countries like Nigeria where prevalence of scabies between males and females was equally [31]. The attack rate is probably equal between the sexes, and the differences in prevalence reported in some studies are probably attributable to confounding factors [32].

Scabies is a condition that affects families, particularly the most vulnerable; it is also has the greatest impact on young children. According to the results of this study, the most common age group was 8-15 years (27.8%). This finding in the school–aged children is consistent with the findings of studies conducted in northwest Ethiopia among "Yekolo temeri" which is reported to be (22.5%) [33], While, in Australian Aboriginal communities, prevalence figures of up to 50% have been reported, and studies in Fiji, Vanuatu and the Solomon islands have found the prevalence of scabies in children to be 18.5%, 24%, and 25%, respectively, with the prevalence being as high as 42% in one Fijian village [34,35]. This might be due to the fact that younger children, particularly, those at school are at high risk of scabies infestations as the school environments may increase the susceptibility of cross-infestation and increase contacts which can be passed to family members and other.

The complex relationships between low socioeconomic status, overcrowding, risk behavior, proportion of individuals infested, and the spread of S. scabiei in the developing world have been clearly addressed in the recent literature [27, 36-38].

Regarding family education level there is a statistically significant association between level of education and scabies infestation. The present work was in accordance with study conducted in Indonesia [39] and findings in southeast of Iran[40]. Moreover, Feldmeier and Heukelbach [41], Ursani and Baloch [26] declared that illiteracy and low standard of education are the factors responsible for the distribution of scabies. Various study findings have reported that parents with higher levels of education are more capable to apply healthcare and prevention measures for their children [27, 42-44].

Concerning family size in our study, there is statistically significant associations between family sizes and scabies infestation. This finding is consistent with results of study in Solomon Islands by Mason et al 2016 [45]. In addition, this result is also supported by other studies conducted in Southern of Ethiopia and Southeast Iran, [15, 40] which revealed that family size had significant association with scabies infestation.

Crowded living conditions, in particular overcrowding for sleeping space, and sleeping habits have been important contributory risk factors for scabies [46, 47, 48].

In the overcrowded homes, close contact between family members increase the risk of scabies transmission. Still, the risk of transmission increases in crowded living conditions, resource-limited regions, child-care facilities, group homes, and institutional settings (e.g., long-term care facilities, prisons, etc [49]. Studies from Mali, India, Brazil and northern Australia all show an association with overcrowding, especially sleeping quarters [35, 50, 51]. Our finding also detected this fact.

The presence of having family member with history of itch skin lesions were significantly associate with scabies infestation in this study. This finding is aligned with the results for example of Debe Worku et al. (2020), Dagne et al. (2018) in study conducted in Northwest Ethiopia [10, 52]. This might be due to the fact that family members spend sufficient time together for the scabies mite to be transferred to the healthy member of family and the most efficient mechanism of scabies transmission is through direct skin reflecting the fundamental role of physical contact in person – to person transmission.

As regard residence, the majority of patients were from AL-shaik Othman and Dar-Saad district areas with a prevalence of 71%. These are districts condensed with people. This is in similarity with the finding in Brazil, where scabies was twice as prevalent in a densely populated urban slum as in a rural community where families lived in larger space [51].

The relationship between socio–economic condition and scabies infection is complex. This study shows that a rise in the unemployment rate was associated with a higher incidence rate of scabies. Similarly, in study conducted in Poland (2019), the authors emphasized that unemployment is effective on scabies, in a study conducted in Turkey, Ural et al. (2022) demonstrated also that scabies was more common in non-working than in working [53, 54]. Unemployment is a situation that is expected to affect the socioeconomic status of the family, and therefore, the health, nutrition, housing, etc. of the individuals in the family

The role of hygiene is controversial [55]. Our results in this study was in agreements with studies reported that the prevalence of scabies was not influenced by personal hygiene [56, 57]. On contrast to studies conducted in Nigeria, and Bangladesh, which revealed an association between scabies infestation and frequency of bath is existed [19, 27]. Other studies also have confirmed that the prevalence of human scabies is linked with poor personal hygiene [58-59].

Limitations of the study:

The major limitation of the study is that diagnosis was entirely based on clinical assessment conducted by experienced doctors and dermatologist, with no mite visualization or its products techniques used to confirm the diagnosis by skin scraping. Second, the dermatoscopy, was not used as this was a pragmatic field survey and these tool is usually not available in clinical practice. These with an agreement with recent consensus criteria for diagnosis of scabies recommended a standardized clinical approach for these settings [60]. Also, we don't ask about sharing of pillows and sharing of clothes, bedding, and dealing with animals.

Conclusion

Though frequency of disease is low in study area. The authors, ensure that the percentage of patient is not reflect the real incidence in the Governorate because other patients consult other private health care centers. Low socioeconomic status including educational level, big family size, crowding in one room and in addition, to presence of a family member with lesion were important factors for transmission of scabies.

Recommendation

Implementation of appropriate educational programs, improvement of socioeconomic conditions and treat scabies cases along with all those to whom they have been in contact with in order to reduce the prevalence of scabies.

Acknowledgment

The authors would like to express their thanks to all staff in Al-Gamohria and AL-Wahda teaching hospital for their help to this study.

References

[1] L.G. Arlian. Biology, host relations and epidemiology of Sarcoptes Scabiei. Annual Review Entomology, 34:139-161, 1989.

[2] O. Chosidow. Clinical practices.scabies. N Engl J Med, 20:354-356, 2006.

[3] http: // www. who .int /news –room/fact-sheets/details/scabies. Accessed 05 May 2021.

[4] D. Engelman, P. T. Cantey, M.Marks, A. W. Solmon,A. Y. Chang, O. Chosidow, and et al .The public health control of scabies: priorities for research and action. Lancet, 94(10192):81–92, 2019. ;. https://doi.org/10.1016/S0140- 6736 (19):31136-5.

[5] S. Thornley, R. Marshall, P. Jarrett, G. Sundborn, E. Reynolds, G. Schofield. Scabies is strongly associated with acute rheumatic fever in a cohort study of Auckland children. J Paediatr Child Health,54(6):625–632, 2018. doi: 10.1111/jpc.13851. –

[6] L. G. Thean, D. Engleman, J. Kaldor, A. C. Steer. Scabies: new opportunities for management and population control. Pediatr Infect Dis, 38 2(2) :211-213, 2019.

[7] E. Hugdahl. Skabb- et folkehelseproblem. Tidsskrift. https://doi.org/10.4045/tidsskr. 20.0799. 2020.

[8] D. Engelman, K. Kiang, O. Chosidow, J. McCarthy, C. Fuller, P. Lammie, A. Steer, et al. Members of the international alliance for the control of scabies. Toward the global control of human scabies: introducing the international alliance for the control of scabies. PLoS Negl Trop Dis, 2013. doi: 10.1371/journal.pntd.0002167.

[9] C.Thomas, S. J. Coates, D. Engleman, O. Chosidow, A. Y. Chang. Ectoparasites: scabies. J A Acad Dermatol,82 (3): 533-548, 2020. https://doi.org/1016/j.jaad.2019.05.109

[10] E. Debe Worku, M. A. Asemahagn, M. L. Endalifer. Determinants of scabies outbreak in Takusa district of Amhara Region. Northwest Ethiopia J Public Health Afr,11(2):1325, 2020. https://doi.org/10.4081/jphia.2020.1325.

[11] B. J. Currie, P. Harumal, M. McKinnon, S. F. Walton. First documentation of in vivo and in vitro ivermectin resistance in Sarcoptesscabiei. Clinical Infectious Diseases. (2004); 39(1): 8-12.

[12] R.J. Hay, A.C. Steer, D. Engelman, S. Walton (Scabies in developing world-its prevalence, complications, and management. Clinical Microbiology and Infection .2012; 18: 313-323.

[13] M.I. Hicks, and D.M. Elston. Scabies. Dermatologic Therapy. 2009; 22: 279-292.

[14] WHO, Scabies burden Globally Data available in https://www.who.int/neglected_diseases/diseases/scabies-and-other- ectoparasites/en/,In2017

[15] W. Wochebo, Y. Haji, S. Asnake. Scabies outbreak investigation and risk factors in Kechabira district, Southern Ethiopia: unmatched case control study. BMC Res Notes. 2019;12 (1):305. 15.

[16] K.K. Al Rubaiy. Determinants and illness behavior of patients with skin diseases in Basrah Governorate. Ph D thesis. Basrah University College of Medicine, 2001.

[17] M. A .Pasha , H. Shaheen , M.A .Abdallah .Frequency of scabies among patients attending dermatology outpatient clinic in Qwesna Hospital, Menofia Governorate.MM J, 31 (2) :660-663,2018.

[18] R.C. Farhana, H. Khalid, N. Shumaila, A.M. Dilwar , Paolotizzani, etal . Scabies Prevalence and risk factors in Pakistan: A Hospital Based Survey. Biomed JSCI & Tech Res, 2 (2): 2498-2502, 2018.

[19] U.S .Ugbomoiko , S.A .Oyedeji, O.A. Babamale, and J .Heukelbach . Scabies in Resource-Poor Communities in Nasarawa State, Nigeria: Epidemiology, Clinical Features and Factors Associated with Infestation Trop Med Infect Dis, 3(2): 59, 2018.

[20] Y.A. Amoako, RO Phillips, J Arthur, MA Abugri, E Akowuah, KO Amoako, et al. A scabies outbreak in the North East Region of Ghana: The necessity for prompt intervention. PLoS Negl Trop Dis, 4(12) ,2020.e0008902.

[21] S.W. Baswaid . Preliminary observations on sarcoptes scabiei infection in Hadhramout Governorate (Yemen). University Bulletin for Environmental Researches, 9.2 (9. 2) : 55-6, 2006.

[22] M. Nazari,and A.Azizi. Epidemiological pattern of scabies and its social determinant factors in west of Iran. Health, 6 (15):1972–77, 2014 .

[23] A. A. Mohy, S.K Al-Hadraawy, A.A.J .Aljanaby. Epidemiological study of patients infected with scabies caused by Sarcoptes scabiei in Al-Najaf Governorate, Iraq. Biomedical Research,; 29 (12): 2650-2654, 2018.

[24] S. Collinson, J. Timothy, S.K Zayzay, K.K. Kollie, E. Lebas, N. Candy, et al. The prevalence of scabies in Monrovia, Liberia: A population-based survey. PLoS Negl Trop Dis, 14(12): 943, 2020.

[25] U.R. Hengge, B.J Currie, G. Jager, Lupi .O, R.A Schwartz. Scabies :a ubiquitous neglected skin disease. The Lancet Infectious Disease, 6:769-79, 2006.

[26] N.M .Ursani, G.H. Baloch .Scabies epidemic at Tando Muhammad Khan, Sindh. Journal of Pakistan Association of Dermatologists,19: 86- 8, . 2009.

[27] S.A Karim, K.S Anwar,M.A.H. Khan, M.A. Mollah, N.Nahar. Sociodemographic characteristics of children infested with scabies in densely populated communities of residential madrashas (Islamic education institutes) in Dhaka, Bangladesh. Public Health, 121:923-934, 2007.

[28] M.M. Al-Musawi, H.R .Hasan, A .H. Maluki .Prevalence of scabies among patients attending the dermatology outpatient clinic in Najaf governorate Iraq. Journal of Advanced Medical Research, 3(4): 63-70, 2013.

[29] R.H .Raheema ,E. H. Nayef and M .K Abdulhassa. Assessment of causes, knowledge and risk factors of scabies among general population in Wasit province, Iraq. Magna Scientia Advanced Research and Reviews. 04(01): 049–056, 2022.

[30] D.K Gupta, R.P. Singh, AK Singh, A.K. Agarwal, A. Kumar, U. Gava. Study of prevalence and determinants associated with scabies in rural area of Bareilly. Indian J Comm Health. 33(1):169-174,2021.

[31] M.N. Sambo, S.H. Idris, A.A. Umar, et al. Prevalence of Scabies Among School aged Children in Katanga Nigeria. Ann. Rural Community in Kaduna state, Northwestern Nigerian Med, 6:26–29, 2012.

[32] C.G. Burkhart. Scabies: an epidemiologic reassessment. Ann Intern Med, 98 :498-50330,1983.

[33] Z. J. Yassin, A.F. Dadi, B.T Derseh, et al. Scabies Outbreak Investigation among “Yekolo Temaris” in Gondar Town, North Western Ethiopia, November 2015. Electronic J Biol,13 (3): 203-209, 2015.

[34] J.R .Carapetis , C.Connors, D .Yarmirr, V. Krause, B.J.Currie. Success of a scabies control program in an Australian aboriginal community Pediatr Infect Dis J , 16:494-499, 1997.

[35] B. Currie, C. Connors, V.L Krause. Scabies programs in aboriginal communities. Med J Aust, 161: 636-637, 1994.

[36] H .Feldmeier, A. Jackson, L. Ariza, C.M. Calheiros, V. L .Soares, F.A. Oliveira, UR Hengge, J Heukelbach. The epidemiology of scabies in an impoverished community in rural Brazil: Presence and severity of disease are associated with poor living conditions and illiteracy. J Am Acad Dermatol, 60: 436-443, 2008 .

[37] N. Raza, SNR. Qadir, and H. Agha. Risk factor for scabies among male soldiers in Pakistan: case control study. Eastern Mediterranean Health Journal ,15(5): 1105-1110, 2009.

[38] J. Heukelbach, H. Feldmeier. Scabies.The Lancet ,367(9524): 1767- 1774, 2006.

[39] K. D. Cahyanti, S. S. Tri Joko. Factors associated with scabies (literature study in indonesian islamic boarding schools). International Journal of Health, Education and Socia(IJHES), 3(9):81–96, 2020.

[40] A. Sanei-Dehkordi, M. Soleimani-Ahmadi, M. Zare, et al. Risk factors associated with scabies infestation among primary schoolchildren in a low socio-economic area in southeast of Iran. BMC Pediatr, 21(1) :249, 2021. https://doi.org/10.1186/s12887-021-02721-0

[41] H. Feldmeier, and J. Heukelbach. Epidermal parasitic skin diseases: a neglected category of poverty-associated plagues. Bull World Health Organ,87:152–159, . 2009.

[42] D.S Hegab, A. M. Kato, I. A. Kabbash, G. M. Dabish. Scabies among primary schoolchildren in Egypt: sociomedical environmental study in Kafr El-Sheikh administrative area. Clinical, cosmetic and investigational dermatology,8:105-11, 2015.

[43] H. Feldmeier, A. Jackson, L. Ariza, C. M. L. Calheiros, V. de Lima Soares, F. A. Oliveira, et al. The epidemiology of scabies in an impoverished community in rural Brazil: presence and severity of disease are associated with poor living conditions and illiteracy. J Am Acad Dermatol, 60(3):436–43, 2009.

[44] A. Sanei-Dehkordi, M. Soleimani-Ahmadi, M. Zare, Madani A, A. Jamshidzadeh. Head Lice Infestation (Pediculosis) and its associated factors among primary school girls in Sirik County, Southern Iran. Int J. Pediatr, 5 (12): 6301– 6309, 2017.

[45] D. S. Mason, M. Marks, O. Sokana, A. W. Solomon, D. C. Mabey, L. Romani, et al. The Prevalence of Scabies and Impetigo in the Solomon Islands: A Population- Based Survey. PLoS Negl Trop Dis, 10 (6): 2016. e0004803

[46] P. V. Gulati, K. P. Singh, C. Braganza. Role of sociocultural and environmental factors in the cause of scabies. International journal of dermatology, 16(4):281–3, 1977.

[47] E. A. Kouotou, J. R. Nansseu, M.K. Kouawa, A. C. Bissek.Prevalence and drivers of human scabies among children and adolescents living and studying in Cameroonian boarding schools. Parasit Vectors,9(1):400, 2016.

[48] B. Misganaw, S. G Nigatu,G. N. Gebrie, A. A. Kibret .Prevalence and determinants of scabies among school-age children in Central Armachiho district, Northwest, Ethiopia. PLOS ONE, 17(6): 2022.e0269918. https://doi.org/10.1371/journal.pone.0269918

[49] Search—UpTo Date. Available online: https://www.uptodate.com/contents/scabies-epidemiology-clinical-features-and-diagnosis (accessed on 15 August 2022).

[50] D. Landwehr, S. M. Keita, J.M. Pönnighaus, C. Tounkara. Epidemiologic aspects of scabies in Mali, Malawi, and Cambodia. Int J Dermatol, 37(8):588–90, 1998.

[51] J. Heukelbach, T. Wilcke, B. Winter, H. Feldmeier. Epidemiology and morbidity of scabies and pediculosis capitis in resource-poor communities in Brazil. British Journal of Dermatology, 153: 150-156, 2005.

[52] H. Dagne, A. Dessie, B. Destaw, et al. Prevalence and associated factors of scabies among schoolchildren in Dabat district, northwest Ethiopia, 2018. Environ Health Prev Med, 24(67): 1-8, 2019.https://doi.org/10.1186/s12199-019-0824-6

[53] J. Korycinska, E. Dzika, M. Kloch. Epidemiology of scabies in relation to socio-economic and selected climatic factors in north-east Poland. Ann Agric Environ Med, 27(3):374-378, 2020. doi: 10.26444/aaem/109319. Epub 2019 Jun 11. PMID: 32955217.

[54] U. Z. Karaca, B. Çatak, E. Ağaoğlu. Prevalence of Scabies in the Covid-19 Pandemic Period and Determination of Risk Factors for Scabies: a Hospital-Based Cross-Sectional Study in Northeast Turkey. Acta Parasit , 67: 802–808, 2022.

[55] J. I. Figueroa, L. C. Fuller, A. Abraha, R. J. Hay. Skin disease in southwestern Ethiopia: rationale for a community approach. Int J Dermatol,37:752- 758, 1998.

[56] S. F. Walton, B. J. Currie. Problems in diagnosing scabies, a global disease in human and animal populations. Clin Microbiol Rev, 20:268–279, 2007. doi: 10.1128/CMR.00042-06.

[57] E. A. Kouocou, J. R. N. Nansseu, A. Sangare, et al. Burden of human scabies in sub- Saharan African prisons: evidence from the west region of Cameroon. Australas J Dermatol, 59 (1): e6–e10, 2018. doi: 10.1111/ajd.12540.

[58] R. J. Hay, M. Augustin, C. E. Griffiths, W. Sterry. Board of the international league of dermatologicals, the grand challenges consultation group. The Global Challenge for Skin Health. Br J Dermatol,172: 1469-1472, 2015.

[59] R. J. Hay, N. E. Johns, H. C. Williams, I. W. Bolliger, R. P. Dellavalle, D. J. Margolis, R. Marks, L. Naldi, M.A Weinstock, S. K Wulf, C. Michaud, J.L Murray, M. Naghavi. The global burden of skin disease in 2010: An analysis of the prevalence and impact of skin conditions. J Invest Dermatol, 134: 1527- 1534, 2014.

[60] D. Engelman, K. Kiang, O. Chosidow, J. McCarthy, C. Fuller, P. Lammie, A. Steer, and et al. Member of international alliance for control of scabies. Toward the global control of scabies. PLoS Negl Trop Dis 2020; http://doi.org/10.1371/journal

مقالة بحثية

معدل حالات الجرب في مستشفيين حكوميين في عدن/اليمن

إكرام علي بدوي[1] و سيناء عبد الله يوسف[2]

[1] قسم الأمراض الجلدية والتناسلية، كلية الطب والعلوم الصحية، جامعة عدن، اليمن
[2] قسم طب المجتمع والصحة العامة، كلية الطب والعلوم الصحية، جامعة عدن، اليمن

* الباحث الممثل: إكرام علي بدوي؛ البريد الالكتروني: ekbadwi@gmail.com

استلم في: 18 نوفمبر 2022 / قبل في: 18 ديسمبر 2022 / نشر في 31 ديسمبر 2022

المُلخّص

يمثل مرض الجرب معضلة صحية عامة كبرى خاصة عند ذوي الدخل المحدود. في منطقة الدراسة لا توجد دراسة مسبقة فيما يخص معدل انتشار مرض الجرب والعوامل المرتبطة به، لهذا اجريت هذه الدراسة. تهدف الدراسة إلى توفير بيانات تتعلق بمعدل مرض الجرب والعوامل ذو العلاقة وتقديم إجراءات الوقاية والسيطرة على العدوى. اجريت هذه الدراسة المقطعية خلال الفترة من 1 يناير إلى 30 يونيو 2022م في عيادات الجلدية لمستشفيين تعليميين الجمهورية ومستشفى الوحدة في محافظة عدن. اظهرت الدراسة ان من إجمالي (2575) مريض تم معاينتهم، 90 حالة لديها جرب (4.3%) وكانت أعلى نسبة اصابة للمرض عند الاطفال الذين يتراوح اعمارهم ما بين 8 سنوات إلى 15 سنة (27.8%). وكانت العدوى عند الذكور أعلى من الإناث (27.8% مقابل 42.2%). خلصت الدراسة إلى ان الظروف الاجتماعية والاقتصادية الصعبة مثل الأمية والزحام ومشاركة المضاجع وانعدام الوظيفة. بالإضافة إلى اصابة آخرين من الأسرة لها دلالة احصائية.

الكلمات المفتاحية: الجرب، معدل، العوامل الاجتماعية والاقتصادية، عدن.

How to cite this article:

E. A. Badwi and S. A. Yousuf, “PREVALENCE OF SCABIES CASES IN TWO PUBLIC HOSPITALS ADEN / YEMEN”, *Electron. J. Univ. Aden Basic Appl. Sci.*, vol. 3, no. 4, pp. 304-312, Dec. 2022. DOI: https://doi.org/10.47372/ejua-ba.2022.4.200

Copyright © 2022 by the Author(s). Licensee EJUA, Aden, Yemen. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY-NC 4.0) license.