

Epidemiology of Scabies among Primary School Children in Quetta

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ABSTRACT

Aim: To assess the prevalence of scabies in primary school children and to identify the factors responsible for scabies.

Design: Observational descriptive study

Duration of study: One month

Place and Duration of Study: Study was conducted at Institute of Public Health, Lahore and data were collected in the month of from 15 December, 2014 to 15 January, 2015 from primary school children of ward No.13 of Zarghon Town, Quetta .

Methods: It was descriptive study in which 230 primary school children of ward No.13 of Zarghon Town, Quetta were included. Data were collected through questionnaire, which was analyzed on using SPSS ver.17.0. Frequencies and percentages were calculated and data was presented in tables.

Results: In boys, majority number of the students were from class 3 and 4, 40(34.8%) in each class and 35(30.4%) were students of class-5. Similarly in girls, majority number of students 40(34.8%) were of class-3 and class-4 each and 35(30.4%) number were students of class-5. Students age range from 8yrs to more than 10yrs.

Conclusion: Main stream of the boys and girls were living in extended family system and Less than half of children had skin rashes while boys were in majority than girls children, received treatment after diagnosis.

Keywords: Scabies, students, blisters

INTRODUCTION

Scabies, contagious parasitic infestation by *Sarcoptes scabiei*, it is endemic in many tropical and subtropical areas, such as Africa, Egypt, Central and South America, northern and central Australia, the Caribbean Islands, India, and Southeast Asia¹. The routes of transmission are close physical contacts and sharing of contaminated bed². *S. scabiei* is an obligatory ectoparasite, which can survive from 3-10 days outside the host along with the other invasive stages, the larvae, and nymphs³. The female *S. scabiei* mite is 0.2-0.4mm long³. A female of *S. scabiei* can survive around 30 days in the host's body penetrating into the stratum corneum of the skin and laying eggs in the burrow. There is a direct association between low hygienic condition and spreading of scabies in wars, floods, earthquakes and other natural and gregarious unfavorable events in the critical times⁴. The characteristic clinical feature is intense itching at night. The other symptoms include superficial burrow, generalized rash and secondary infection. Acropustulosis or blisters and pustules on palms and soles and characteristic symptoms in infants⁵. The most commonly affected

areas are the hands, feet, the inner part of the wrists and the folds under arms .It may also affect other areas of the body, like elbows and the areas around the breasts, genitals, umbilicus and buttocks⁶. In infants and small children, the scabies rash may include vesicles, pustules, or nodules, and the head and neck may not be spared. The lesions are generally distributed but are concentrated especially on hands and feet and in body folds⁷. The rationale of present study was to determine frequency of scabies in primary school children in District Quetta and its relationship with hygiene and other factors. A very little information is present regarding this topic in Quetta and that's why I tried to fill the gap in communities of district Quetta.

MATERIALS AND METHODS

Study was conducted at Institute of Public Health, Lahore and duration of study was one month and data were collected from 15 December,2014 to 15 January,2015 from primary school children of ward No.13 of Zarghon town, Quetta . It was observational cross-sectional study in which 230 primary school children of ward No.13 of Zarghon town, Quetta were included. Primary school children of grade 3-5 were included and those students who were willing to participate in the study were included in the study.

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Children less than grade 3 and more than grade 5 were excluded from the study and those who refused to participate in the study were excluded from the study. Data were collected through questionnaire, which consisted of socio-demographic characteristics, personal hygiene, and examination of students for scabies. Permission was taken from district education officer and principal of the schools. Teachers were contacted for the selection of students randomly and in break-time screening of each student was done by visual examination (naked eye plus magnifying glass) in the proper daylight for children's interdigital cleft, axilla, wrist and groins were examined for any skin lesion and hygienic practices etc for scabies. Data were analyzed on using SPSS ver.17.0. Frequencies and percentages were calculated and data was presented in tables.

RESULTS

Table 1: Class variation of children

Class	Boys	Girls
Class 3	40(40.8%)	40(34.8%)
Class 4	40(34.8%)	40(34.8%)
Class 5	35(30.4%)	35(30.4%)

Table 2: Age variation of children

Age	Boys	Girls
Upto 8years	35(30.4%)	38(33.1%)
9-10 years	40(34.8%)	45(39.1%)
>10years	40(34.8%)	32(27.8%)

Table 1 showed out of 230 primary school children 115 students were boys and girls respectively. In boys, majority number of the students were from class 3 and 4, 40(34.8%) in each class and 35(30.4%) were students of class-5. Similarly in girls, majority number of students 40(34.8%) were of class-3 and class 4 each and 35(30.4%) number were students of class-5. Students age range from 8 to more than 10yrs. Table 2 showed among the boys, majority of the students were 40(34.8%) in 9-10 years and more than 10yrs old age group each and 35(30.4%) were in age group of up to 8 years old. The majority of the girls were 9-10 years old, 45(39.1%) and secondly the number of girls 38(33.1%) were upto 8 years old, followed the third group of 32(27.8%) were more than 10 years old. Table-3 showed that the majority of the boys had no skin rashes 60 (52.2%) and 55(47.8%) number of boys students developed skin rashes. In girls majority of the girls had no skin rashes 76(66.1%) and remaining girls had developed skin rashes 39(33.9%). Among 55 boys who had skin rashes, the duration of rashes for 27(49%) was less than 2 weeks while for 28(50.9%) duration was more than 2 weeks. Out of 39 girls who had skin rashes, the

duration of rashes for 34(87.2%) was less than 2 weeks while for 5(12.8%) duration was more than 2 weeks. Result shows that all 55(100%) boys had skin itching due to scabies. Similarly all 39(100%) girls had skin itching due to scabies. Table depicts that 4(7.3%) boys had itching during day time while majority 51(92.7%) had itching during night time. Likewise 2(5.1%) girls had itching during day time while majority 37(94.9%) had itching during night time. Among 55 boys, only 3(5.5%) had fever while majority 52(94.5%) had no fever and in all 55(100%) girls had no fever.

Table 4 depicts that among 100 boys whose mothers were illiterate, 48(41.7%) had scabies and 52 (45.2%) had no scabies. Likewise among 15 boys whose mothers were literate, 7(6.1%) had scabies and 8(7%) had no scabies. Among 99 girls whose mothers were illiterate, 33 (28.7%) had scabies and 66(57.4%) had no scabies. Likewise among 16 girls whose mothers were literate. 6(5.2%) had scabies and 10(8.7%) had no scabies. Table highlights that among 98 boys whose fathers were illiterate 49(42.6%) had scabies and 49(42.6%) had no scabies. Likewise among 17 boys whose fathers were literate, 6(5.2%) had scabies and 11(9.6%) had no scabies. Among 100 girls whose fathers were illiterate, 32(27.8%) had scabies and 68(59.1%) had no scabies. Likewise among 15 girls whose fathers were literate, 7(6.1%) had scabies and 8(7%) had no scabies. Table describes that among 36 boys who had <4 family members, 14(12.2%) had scabies and 22(19.1%) had no scabies. Likewise among 79 boys who had >4 family members, 41(35.6%) had scabies and 38(33.1%) had no scabies. Among 27 girls who had <4 family members, 8(7%) had scabies and 19(16.5%) had no scabies. Likewise among 88 girls who had >4 family members, 31(26.9%) had scabies and 57(49.6%) had no scabies.

Table 3: Scabies Observation

Characteristics	Boys Frequency%	Girls Frequency
Skin Rashes		
Yes	55(47.8%)	39(33.9%)
No	60(52.2%)	76(66.1%)
Duration		
< 2 weeks	27(49.1%)	34(87.2%)
> 2 weeks	28(50.9)	5(12.8%)
Skin Itching		
Yes	55(100%)	39(100%)
No	0	0
Time of Itching		
Day Time	4(7.3%)	2(5.1%)
Night Time	51(92.7%)	37(94.9%)
Fever		
Yes	3(5.5%)	0
No	52(94.5%)	39(100%)

Table 4: Factors responsible for Scabies among children

Boys	Yes	No	Total	Girls	Yes	No	Total
Mother education				Mother education			
Illiterate	48	52	100	Illiterate	33	66	99
Literate	7	8	15	Literate	6	10	16
Total	55	60	115	Total	39	76	115
Father education				Father education			
Illiterate	49	49	98	Illiterate	32	68	100
Literate	6	11	17	Literate	7	8	15
Total	55	60	115	Total	39	76	115
Family size				Family size			
< 4	14	22	36	< 4	8	19	27
> 4	41	38	79	> 4	31	57	88
Total	55	60	115	Total	39	76	115
Personal Hygiene				Personal Hygiene			
Good	39	45	84	Good	29	68	97
Poor	16	15	31	Poor	10	8	18
Total	55	60	115	Total	39	76	115
Hygiene Practices				Hygiene Practices			
Good	38	40	78	Good	37	65	102
Poor	17	20	37	Poor	2	11	13
Total	55	60	115	Total	39	76	115

DISCUSSION

Scabies is a common, though relatively neglected, parasitic skin disease of resource-poor rural and urban communities in the developing world^{8,9,10,11,12} scabies is public health problem among primary school children which can affect their school regularity and performance and the common risk factors for scabies are war, overcrowding, malnutrition, sporadically sexual contact, and poor hygiene. Current study was carried out at Zarghon Town, Quetta to assess the prevalence of scabies among primary school children and to identify the factors responsible for scabies. Parents education cannot be overlooked as it plays a significant role in children education, quality of life and the hygiene of their children. It was very discouraging that majority of the parents of boys and girls were illiterate in which 100(86.9%) mothers of boys and 99(86.1%) mothers of girls were illiterate and very small number of mothers of boys 15(13.1%) and girls 16(13.9%) were literate. Similar findings also present in their fathers education in which Fathers of boys 98(85.2%) and fathers of girls 100(86.9%) were illiterate and very few number of fathers were literate like 17(14.8%) of boys and 15(13.1%) of girls. Such type of results also found in another study who reported that only 10% mothers were matric and above while 90% were matric and below¹⁵. Like education, mother profession is also associated with hygiene practices of their children because professional active mothers

are more aware owing to their social contact and have better knowledge. Overcrowding is also leading cause of scabies. It is evident from study that majority of boys and girls were living in extended family system. Study found that scabies was more prevalent among boys than girls for the reason that 47.8% boys and 33.9% girls had skin rashes. The results of our study are comparable with the study done by another study who also confirmed that scabies was more commonly seen in boys (50%) than girls (16%)¹³. Study further revealed that both boys and girls who had scabies, all of them (100%) had itching. Another study elucidated that 73.3% children had itching due to scabies¹⁴. Majority of scabies patient always seek treatment for scabies due to its severity. Study showed significant proportion of peoples received treatment of scabies. Pets can be potential source of scabies Pets should be avoided; if possible, otherwise close contact should be avoided. There is also association seen between pets and scabies among girls. Study shows that girls are more pet lover than boys.

Time was the major constraint for data collection while the sample size of the study was also small. It is necessary that the economic and sociocultural status of the community be improved and hygiene concepts and practices be promoted in order to improve the health of children¹⁶. Therefore further studies are required to be conducted to assess the prevalence of scabies among primary school children and as well as in adults.

CONCLUSION

1. Main stream of the boys and girls were living in extended family system
2. Less than half of children had skin rashes while boys were in majority than girls
3. Majority of the children received treatment after diagnosis.
4. Economic and sociocultural status of the community be improved and hygiene concepts and practices be promoted.

REFERENCES

1. Walton SF, Currie BJ. Problems in diagnosing scabies, a global disease in human and animal populations. *Clin Microbiol Rev* 2007; 20: 268-79.
2. Mohammad Rahmati Roodsari, Farhad Malekzad, Mohammad Ebrahimzadeh Prevalence of scabies and pediculosis in Ghezel Hesar prison, Iran *Journal of Pakistan Association of Dermatologists* 2006; 16: 201-204.
3. Rahdar M, Vazirianzadeh B, Maraghi S. A case report of *Sarcoptes scabiei* infection in Ahwaz, Iran, *Iranian Journal of Arthropoda Borne Diseases* 2008; 2: 14-18.
4. Rouhullah Dehghani¹, Babak Vazirianzadeh², Seyed Hossien Hejazi³ Frequency of *Sarcoptes scabiei* infestation in patients referred to the parasitology laboratory in Isfahan, Iran (1996-2002). *Jundishapur Journal of Microbiology* (2009); 2(2): 65-70
5. Raza N, Qadir SNR, Agha H. Risk factors for scabies among male soldiers in Pakistan: case-control study. *East Mediter Health J* 2009; 15 (5): 1105-10.
6. Rathi SK, Rathi HS, Lakhani H, Hasotia MF. Awareness about scabies among general medical practitioners (GPs) of Karachi, Pakistan. *J Pak Med Assoc.* 2001; 51(10): 370-2.
7. David c. Flinders, M.D. Peter De Schweinitz, M.D. Pediculosis and Scabies *AMERICAN FAMILY PHYSICIAN* www.aafp.org/afp Vol 69, January 15, 2004
8. Gulati PV, Braganza C, Singh KP & Borker V (1977a) Scabies in a semiurban area of India: an epidemiologic study. *International Journal of Dermatology* 16, 594–598.
9. Sharma RS, Mishra RS, Pal D et al. (1984) An epidemiological study of scabies in a rural community in India. *Annals of Tropical Medicine and Parasitology* 78, 157–164.
10. Carapetis JR, Connors C, Yarmirr D, Krause V & Currie BJ (1997) Success of a scabies control program in an Australian aboriginal community. *Pediatric Infectious Diseases Journal* 16, 494–499.
11. Hegazy AA, Darwish NM, bdel-Hamid IA & Hammad SM (1999) Epidemiology and control of scabies in an Egyptian village. *International Journal of Dermatology* 38, 291– 295.
12. Heukelbach J, Wilcke T, Winter B & Feldmeier H (2005) Epidemiology and morbidity of scabies and pediculosis capitis in resource-poor communities in Brazil. *British Journal of Dermatology* 153, 150–156.
13. Zayyid MM, Saadah RS, Adil AR, Rohela M, Jamaiah I. Prevalence of scabies and head lice among children in a welfare home in Pulau Pinang Malaysia, *Trop Biomed*, 2010; 27: 442-6.
14. Sambo MN, Idris SH, Umar AA. Prevalence of scabies among school aged children in Katanga rural community in Kaduna state, Northwest Nigeria. *Ann Niger Med*, 2012; 6: 26-9.
15. Vahabi B, Vahabi A, Gharib AR, Sayyadi M. Prevalence of head louse infestations and factors affecting the rate of infestation among primary school children in Paveh City, Kermanshah Province, Iran, 2009-2010. *Life Sci J*, 2013; 10 (12s): 360-4.
16. Ihsan Hakki CIFTCI1)*, Semsettin KARACA2), Omer DOGRU3), Prevalence of pediculosis and scabies in preschool nursery children of Afyon, Turkey *Korean Journal of Parasitology* Vol. 44, No. 1: 95-98, March 2006.