Clinico-Epidemiological Characteristics of Scabies in Children. Do We Need Mass Drug Administration?

Vikash Paudel1, Manish Pradhan1, Anil Shah1, Deepa Chudal2

1Department of Dermatology, National Medical College, Birgunj, Nepal. 2Department of Obs/Gyne, Nepal Police Hospital, Kathmandu, Nepal.

INTRODUCTION

Scabies is a common contagious neglected parasitic skin infestation caused by a mite called Sarcoptes scabiei.1 It is more common in children than adults. As the exact number of infected cases worldwide is not known, but is estimated to be up to 300 million and endemic in developing world.2 Though its burden is high, effective mass control strategies are lacking. Ivermectin is effective oral drug for mass scabies treatment and control.3

The objective of study was identifying its clinical and epidemiological characteristic of scabies especially in children and to see the possibility of mass drug administration with ivermectin against the scabies.
METHODS

This was cross-sectional retrospective study conducted in outpatient department of department of dermatology and venereology in a tertiary level hospital in central Nepal. All children below 5 years of age with a clinical diagnosis of scabies during January 2019 to June 2019 were studies for various parameters. Permission was taken for studying and analyzing data from the department and hospital authority and anonymity of the patients were maintained throughout the process. All the cases diagnosed as scabies from the departmental records were studied. The clinical and epidemiological characteristics were retrieved from the electronic and file records. For missing data, patients were traced for telephone interview wherever required. The finding of the data was recorded in preformed performa which were analyzed using Microsoft excel and SPSS software.

RESULTS

A total of 342 children were enrolled in the study. Among 342 patients, 222 were male with M: F ratio of 1.85:1 (Figure 1). Prevalence of scabies was calculated from the total number of scabies among total children during the period was found to be 5.1 %. Mean age of the children with scabies was 2.4 years. Majority (89.5%) were from rural community and were of lower income. Most patients (90%) had history of contact, either family member or friends. On the basis of religion, Hindus comprised three fourth of the population followed by Muslim occupying the rest (Figure 2). Clustering of disease was seen in colder months. Common site of involvement due to scabies was abdomen, web-space and genitalia in both male and female. Pruritus was the most common symptom (90%). Secondary bacterial infections were seen in 10% of the children (Table 1). There was no record about child with having reported about septicemia, post streptococcal glomerulonephritis or acute rheumatic fever as complications during the study period.

DISCUSSION

Scabies is a common public health problem in less developed countries like Nepal. Prevalence of scabies is high in children, clustered in rural communities in lower socio-economic areas because of poor hygiene, poor sanitation and crowding of family members. The prevalence in our study is similar to the data of World health organization. The seasonal occurrence of scabies was also reported in study by other studies. Secondary pyoderma are also common in scabies because of intense itching.
which was present in 10% of our patients. These are caused by group a streptococci and Staphylococcus aureus, the burden of disease is compounded by nephritis, rheumatic fever and sepsis in developing countries. No severe complications like septicemia, glomerulonephritis or acute rheumatic fever were recorded. This could be because all the patients with secondary pyoderma were timely treated with oral and topical antibiotics. Treating scabies in infants and children is challenging. Many drugs used in adults cannot be used in children because of diverse safety profiles. Further, little research compares the safety and efficacy of scabies treatments in infants and small children. Permethrin is the safest drug in children and adults. As the scabies is contagious, ivermectin mass drug administration if given to adult can be helpful in adults, leading to less chance even in children. Ivermectin-based mass drug administration could be an option in endemic population as it has found to be helpful in prevention of scabies.

LIMITATION

This study was a hospital based retrospective study with less sample so might not represent actual problem in community. A larger scale community study is needed to the actual burden of disease and to find the possibility of mass drug administration.

CONCLUSION

Scabies is disease of public health importance with high prevalence and high socio-economic burden in children and community. Control of scabies and its complications should be a public health priority to prevent complications associated with it. Mass drug administration strategies of Ivermectin could be promising in achieving community control.

ACKNOWLEDGEMENT

The authors would like to thank all the helping hands of students, intern, staffs and faculties of department of dermatology and medical record section for their constant cooperation during the study.

REFERENCES

1. Thomas C, Coates SJ, Engelman D, Chosidow O, Chang AY. Ectoparasites: scabies. Journal of the American Academy of Dermatology. 2020 Mar 1; 82(3):533-48. [DOI] [PubMed]

2. Karimkhani C, Colombara DV, Drucker AM, Norton SA, Hay R, Engelman D, Steer A, Whitfeld M, Naghavi M, Del-lavalle RP. The global burden of scabies: a cross-sectional analysis from the Global Burden of Disease Study 2015. The Lancet infectious diseases. 2017 Dec 1;17(12):1247-54. [DOI]

3. Romani L, Whitfeld MJ, Koroivueta J, KamaM, WandH, Tikoduadua L, Tuicakau M, Koro A, Andrews R, Kaldor JM, Steer AC. Mass drug administration for scabies control in a population with endemic disease. New England Journal of Medicine. 2015 Dec [DOI] [PubMed] [Full text]

4. World Health Organization. Epidemiology and management of common skin diseases in children in developing countries. Geneva: World Health Organization; 2005.

5. Yasmin, Samina & Suleman, Suleman & Ullah, Hanif & Khan, Mian. (2016). Epidemiological study of scabies in district Haripur, Pakistan. Arthropods. 2016; (5)151-161. [Full text]

6. Khteer Al-Hadraawy, Saleem & Hessen, H.B. Hematological and epidemiologi- cal study for patients infected with scabies. Journal of Pharmaceutical Sciences and Research.2017; 9. 897-900. [Full text]

7. Poudyal Y, Ranjit R, Pathak S, Chaudhary N. Pattern of Pediatric Dermatose s in a Tertiary Care Hospital of Western Nepal. Dermatology Research and Practice. 2016[DOI] [PubMed] [Full text]

8. Hay RJ, Steer AC, Engelman D, Walton
Clinico-Epidemiological Characteristics of Scabies in Children. Do We Need Mass Drug Administration?

S. Scabies in the developing world—its prevalence, complications, and management. Clin Microbiol Infect. 2012 Apr; 18(4):313-23. [DOI] [PubMed]

9. Karthikeyan K. Scabies in children. Arch Dis Child Educ Pract Ed. 2007; 92(3):e65-9 [DOI]

10. Currie BJ, McCarthy JS. Permethrin and ivermectin for scabies. N Engl J Med. 2010; 362(8):717-25.[DOI] [PubMed] [Full text]

11. Romani L, Marks M, Sokana O, Nasi T, Kamoriki B, Cordell B, Wand H, Whitfield MJ, Engelman D, Solomon AW, Kaldor JM. Efficacy of mass drug administration with ivermectin for control of scabies and impetigo, with coadministration of azithromycin: a single-arm community intervention trial. The Lancet Infectious Diseases. 2019 May 1;19(5):510-8. [DOI]