

To Study Therapeutic Effect and Benefit on Quality of Life in Scabies Patients

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ABSTRACT

Objective: To determine the quality of life by using 5% permethrin cream in scabies patients

Background: Scabies is a contagious, itchy ectoparasitic infection caused by *Sarcoptes scabiei* mite. It is a common public health problem with an estimated global prevalence of 300 to 400 million cases. They increase day by day due to resistance/ recurrence and largely affect the quality of life of patients. 5% permethrin is one of the effective treatments of scabies; it is highly effective, well tolerated, poorly absorbed and rapidly metabolized by skin.

Study Design: Open Label Clinical Trial study approved by ethics Committee of Jinnah Postgraduate Medical Centre, Karachi.

Place and Duration of Study: This study was conducted in Basic Medical Sciences Institute with Collaboration of Dermatology Department of JPMC, Karachi from 1st Dec 2010 to 30th Jan. 2011.

Materials and Methods: This study sample involved 65 clinically diagnosed scabies patients who were treated with 5% permethrin cream. Clinical data was collected by using questionnaire. Patients were divided into three age groups and given two applications of permethrin cream on first and 15 day. Follow up was done on Day 3, Day 15 and Day 30 and their quality of life assessed using dermatological life quality index on day 0 and 30.

Results: It was found that quality of life in scabies patients was low and treatment with permethrin cream clinically improved the symptoms of patients and their quality of life significantly.

Conclusion: Scabies has a social stigma and the quality of life of patient gets affected because of night itching and lack of sleep which improves significantly following proper local therapy.

Key Words: Scabies, 5% permethrin cream, quality of life.

INTRODUCTION

Scabies is a common parasitic infection caused by the mite *Sarcoptes scabiei* var. *hominis*, an arthropod of order *acarina*¹. It has been known since ancient times like Napoleon who seems to have suffered from the itch².

The world wide prevalence has been estimated at about 300 million cases yearly, although it is a common disease of children but occurs in both sexes, at all ages, in all ethnic groups and at all socio-economic levels^{3,4}. It is a major public health problem in developing countries⁵. It is common in HIV and immunocompromised diseases because of impaired immunity⁶.

It has an impact on patient's quality of life⁷. Scabies is one of six major epidermal parasitic skin diseases (EPSD)⁸.

Skin diseases pattern may vary with geographical location and environmental conditions. In cities like Karachi with hot / humid climate, pollution, overcrowding and lack of sanitation predisposes to a variety of dermatological diseases⁹.

Due to lack of clinical diagnosis by the General Physician and also prescription of inadequate or inappropriate medication has contributed to the spread and resistance to therapy¹⁰. When the patient does not respond to therapy for long time its serious effects on their working ability and quality of life¹¹. There are

a variety of drugs for scabies treatment; permethrin is one of the effective topical applications with minimal systemic absorption (2%) it has given encouraging results as such it was chosen for therapeutic management^{12,13}. It acts on voltage dependent Na-channel by extended opening causing depolarization, prolongs resulting paralysis¹⁴.

MATERIALS AND METHODS

Study design:

This was an open label clinical trial approved by ethics Committee of Jinnah Postgraduate Medical Centre, Karachi conducted in Basic Medical Sciences Institute with Collaboration of Dermatology Department. Cases diagnosed by consultant dermatologist and were enrolled to participate in the trial. Detailed questionnaire was completed and informed written consent was taken from patient and their relatives. Patients willing to participate were screened by applying the inclusion and exclusion criteria. Patients were divided into 3 groups according to age.

Inclusion criteria included; 1) night itching, 2) Diagnosed cases of scabies either gender, 3) Age above 5 years and below 70 years 4) Demonstration of burrows or presence of lesion of scabies at the classical sites and 5) History of similar illness in the family. Three or more criteria mentioned above made the patient eligible to include in the study.

Exclusion criteria included pregnant/ lactating women, crusted scabies, patient who had received treatment during last 1 month, diabetics and patients with hepatic impairment or with dermatological, cardiovascular and neurological diseases.

Eligible subjects were assigned to apply 5% permethrin cream overnight (over 14 hours) and then repeated the application on day15. The quality of life index assessed on the first day of enrollment following which treatment was applied, they were examined on the 15 day and the application was re-applied and finally was examined, clinically reassessed for dermatological life quality index on day 30. Patients were advised to apply cream from head to toe. Standard instructions were given about the nature of the disease, mode of application of drugs, importance of treating all the family members and close contact and about wearing clothes and bedding in hot water. They advised not to use any antipruritic or any other topical medication which could effect the efficacy of the given treatment.

Clinical Cure rate evaluated by VAS scoring, and quality of life was assessed using Dermatology life quality index which is comprised of 10 items, giving sum score ranging between 0-30, it is focuses on six domains, including symptoms and feelings, daily activities, leisure, work and schooling, personal relationship and treatments. Dermatological life quality index is a useful score for clinical grading, grade I (0-1) means no effect, Grade-2 (2-5) means small, grade 3 (6-10) means moderate, grade 4 (11-20) means very large and grade 5 (21-30) means extremely large effect on patients life. The Dermatological life quality index (DLQI) used according to instruction given by Findlay and Khan for adults (1993) and Lewis-Jones and Finlay for children (1994)

Statistical analysis

Data were analyses using SPSS software, mean \pm SEM and Dermatological life quality index (DLQI).

RESULTS

A total of 65 patients were enrolled in group A and divided according to age into 3 groups, from 5-25years(A1) 24 patients, in 26-45 years(A2) 21 patients and in 46-70 years of age(A3) 20 patients were involved, the enrolled 65 patients M=22,F=43.Out of total subjects 11 had no family involvement/close contact .55(84.4%) of patients were clinically cured at the end of treatment. One patient did not turn up for follow up. The details are shown in table 1.

The mean \pm SEM DLQI score was assessed in this study on day 0 before treatment and on day 30 after the treatment using the Dermatology life Quality Index questionnaire for adult and children.

In group A1 (age 5-25 years) on day 0 Mean was18.2 \pm 0.64 which significantly improved to 2.3 \pm 1.08 on the evaluation on 30th day since the enrollment of

the patient. In group A2 (age 26-45 years) on day 0 the Mean was 15.6 \pm 0.79 which improved to 2.1 \pm 1.16 on 30th day of study. In group A3 (age 46-70 years) on day 0 Mean was 12.0 \pm 0.64 which significantly improved on 30th day that was 1.9 \pm 1.06. The overall Mean for the entire patient involved irrespective of age group improved to 2.1 \pm 0.63 from 15.5 \pm 0.50 with .001p-value as shown in table2.

9 patients out of 65 did not improved and not cured clinically may be due to poor compliance or resistance.

Table No.1: General characteristics of scabies patients treated with 5% 5%Permethrin cream

Parameters	Permethrin cream (n=65)	
	No Of patient (n)	Percent (%)
Age in years		
5-25	24	36.9
26-45	21	32.3
46-70	20	30.8
Gender		
Male	22	33.8
Female	43	66.2
Family members with scabies		
None	11	16.9
1-3	39	60.0
4-5	6	9.2
6 and above	9	13.8
History of contact		
Yes	7	10.8
No	58	89.2
Type of lesion		
Barrows	30	46.2
Barrows and Vesicles	35	53.8
Barrows, Vesicles and Papule	0	0.0

Table No.2: Dermatological life Quality index (DLQI) of scabies patients on Day-0 and Day-30 in Group A (5%Permethrin cream)

Group A Permethrin Cream (n=65)			
	Mean ± SEM		P-value
Follow-up available	(n=64)		
Quality of life (DLQI Score)			
Day – 0	15.5 ± 0.50	0.001	
Day – 30	2.1 ± 0.63		
Quality of life according to age groups			
5-25 years (n=24) A1	Day – 0	18.2 ± 0.64	0.001
	Day – 30	2.3 ± 1.08	
26-45 years (n=20) A2	Day – 0	15.6 ± 0.79	0.001
	Day – 30	2.1 ± 1.06	
46-70 years (n=20) A3	Day – 0	12.0 ± 0.64	0.001

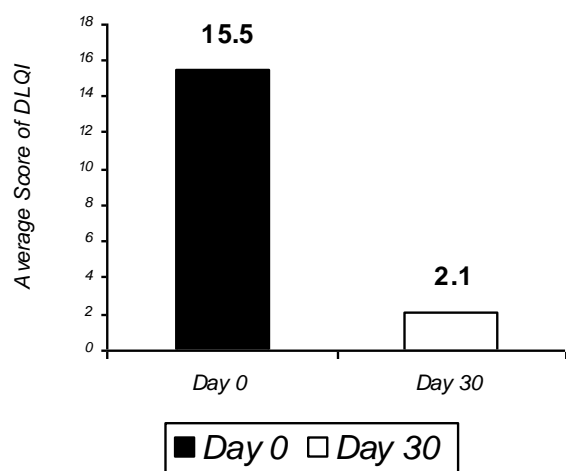


Figure No.1: Dermatological life Quality index in scabies patient on day 0 and day 30 in the treatment of 5% Permethrin cream

DISCUSSION

Health related Quality of life includes physical, functional, social and emotional well being of an individual¹⁵. The Dermatology life Quality Index (DLQI) may be used for routine clinical use for clinical evaluation, clinical decision making and research^{16,17}.

Scabies is a highly contagious disease. It is still major public health problem in many under develop countries in some of them are in an epidemic like situation it is common in over crowded, poor sanitation conditions and individuals with lack of hygiene^{18,19}. Scabies also leads to social stigmas in certain societies, However quality of life has not been investigated in patient with scabies after treatment with permethrin although it largely effect the life style and working of individuals as shown in this study. However in one study sulphur has been used in the past and shown to cure the disease and in turn improving the quality of life²⁰.

There are many scabicides for the treatment of scabies how ever permethrin cream is considered one of the drug of choice for local application in its management²¹. Permethrin is one of the effective local therapy against scabies hence it was decided to use it in this study and monitor its effect on quality of life of patient using DQLI²² one patient did not report for follow up and was dropped of the study. Total 64 patients were involved out of which 54 (84.4%) patients were cured thus indicating the efficacy of the drug on the all stages of mite (ova, larvae, and adult)²³. Similar result has been reported with permethrin in an other study²⁴. How ever our results were comparatively better then in the above study which was most probably due to the proper explanation regarding the local application of permethrin and the free samples provided to the patients/relatives for treatment. The mean of Dermatology Quality Life Index (DLQI) was 15.5 ± 0.50

at day 0 in all the 64 patients involved in the study. The extensive degree of disease was effecting there quality of life which was significantly improved by treatment with 5% permethrin cream. Similar results with permethrin have been reported in the past in another study²⁵ with a some variations. Night time pruritus which is a hallmark feature of scabies is a severely unpleasant symptom impairing sleep and causing considerable reduction in health related quality of life especially during day time as evident from this study. Such results have been reported in another study^{26,27}. Permethrin was found to be effective and well tolerated, with no systemic effects and rapidly metabolized have been reported in the past^{28,29}. The symptoms of scabies effects the quality of life of patients resulting in that deterioration of sexually, emotionally and psychologically features. The treatment of disease causes reversal and improvement of these symptoms³⁰.

CONCLUSION

The result of study suggest that Scabies largely effects the quality of life of patients. However treatment with 5% permethrin cream causes reversal of symptoms and brings the quality of life of the affected patients back to normal.

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