

Comparing the Quality of Life by Using Two Therapeutic Approaches (10% Sulphur Ointment and 5% Permethrin Cream) in Scabies Patients

1. Farah Asad 2. Bahram Khan Khoso 3. Fatima Rizvi

1. Asstt. Prof. of Pharmacology and Therapeutic, JMDC, Karachi 2. Asstt. Prof. of Dermatology, JPMC, Karachi

3. Asstt. Prof. of Pharmacology and Therapeutic, JMDC, Karachi

ABSTRACT

Objective: To compare the quality of life by using two therapeutic approaches (10% sulphur ointment and 5% permethrin cream) in patients with scabies.

Study Design: Retrospective / comparative study.

Place and Duration of Study: This study was conducted in Basic Medical Science Institute and Dermatology Department of Jinnah Postgraduate Medical Centre in Karachi from 1st Dec 2010 to 30th May 2011.

Materials and Methods: This study sample consisted of 130 (4 dropped out) clinically diagnosed cases of scabies divided into two groups; A and B. Each group was further subdivided into three age groups. Group A was asked to apply 5% permethrin cream on day 0 and to be repeated after 15 days and Group B treated with 10% sulphur ointment for three consecutive nights and repeated on day 15. Data was gathered by a questionnaire. Patients follow up was done on days 3, 15 and 30 and quality of life was determined on day 0 and 30 by using Dermatological Life Quality Index.

Results: Quality of life was found to be low in scabies patients and treatment with 10% sulphur ointment and 5% permethrin not only improved clinical symptoms but also their quality of life significantly.

Conclusion: Scabies affects quality of life because of severe itching and lack of sleep and proper topical therapy significantly improves clinical symptoms and quality of life.

Key Words: Scabies, quality of life, 10% sulphur ointment, 5% permethrin cream.

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INTRODUCTION

Scabies is very common skin condition caused by *Sarcoptes scabiei* variety *hominis*.¹ It has been known since ancient time like Napoleon who seems to have suffered from the itch.²

Although scabies is common disease of children but any age group of either gender can be involved. No socio-economic or ethnic groups is spared.^{3,4} The global prevalence is around 300 million cases every year. It is more common in developing countries and it affects people at large.⁵ Patients with HIV and other immune compromised diseases are commonly and severely affected because of lack of immunity.⁶

Patient's quality of life is severely affected by this disease.⁷ Scabies is included in six parasitic skin diseases of epidermis (EPSD).⁸

Different environmental conditions and geographical location affects the pattern of skin diseases. Varieties of

skin diseases prevail in cities like Karachi because of poor sanitation standards, hot and humid weather, pollution, and uncontrolled growth of population.⁹

Misdiagnosis and improper treatment by the General physician are the major causes of its spread and developing of resistance to different therapies.¹⁰ Thus patient's ability to work and quality of life are severely affected because of long and inadequate treatments.¹¹ Among many topical preparations available for scabies, permethrin is effective and well tolerated with minimal systemic absorption (2%).^{12,13} It causes mite paralysis by prolong depolarization as it acts on voltage dependent Na-channel and causing extended opening.¹⁴ Sulphur is widely used in dermatology and has antibacterial, antifungal and keratolytic activity.¹⁵ Sulfur is safe in infant, children and pregnancy.¹⁶

MATERIALS AND METHODS

This was an open label study which was conducted in Basic Medical Sciences Institute and Dermatology Department after ethical approval by ethical Committee of JPMC, Karachi. Diagnosed cases of scabies by a

Correspondence: Farah Asad,

Asstt. Prof. of Pharmacology and Therapeutic, JMDC, Karachi

Cell No.: 0336-2597288

E-mail: asad-farah@hotmail.com

consultant dermatologist were recruited for this trial. Informed written consent was taken from participants of this study and their relatives before completing detailed questionnaire. After applying inclusion and exclusion criteria, patients willing to participate were screened out and were divided into 3 age groups.

Following was the inclusion criteria; 1) Nocturnal pruritus, 2) Confirmed cases of scabies of either sex, 3) Age >5 years and < 70 years, 4) Patients having lesions at the classical sites or presence of burrows, 5) Family history of similar disease. Those patients who fulfilled 3 or more above mentioned criteria were eligible to be enrolled for this study.

Patients having Norwegian scabies or who had received any form of treatment for past 1 month, pregnant/ lactating women, those having concurrent illness, like diabetes, hepatic impairment or any dermatological, cardiovascular and neurological diseases were excluded.

Two groups of patients were formed. Subjects in first group were asked to apply 5% permethrin cream overnight for 14 hours and to repeat the same after 15 days and other group applied 10% sulphur ointment for three consecutive nights for 24 hours and then reapplied the same after 15 days for one more night. The quality of life index was determined on the day 0 before the application of the topical treatment. Subjects were followed on the day 15 when another application of either therapy was repeated. On day 30, patients were reexamined and reassessed for Dermatological life quality index. Subjects were fully explained about the disease, how to apply the topical treatments, treating other members of family and close contacts and about cleaning clothes and bedding in boiling water. They were also advised to avoid any other local therapies during study period.

Visual analog scale was used to judge the response of the treatment, and Dermatology life quality index was used to determine quality of life as proposed by Findlay and Khan for adults (1993) and Lewis-Jones and Finlay for children (1994). Its score ranged from 0 to 30 and it composed of 10 items.

Statistical analysis: SPSS software Ver.11.0D was used to analyze different data.

RESULTS

In Group A, 64 patients (one dropped out) and group B, 62 patients (3 dropped out) completed the study. These patients were further sub divided into 3 age groups, 1. A1 /B1- 5-25 years, 2. A2/B2- 26-45 years and 3. A3/B3- 46-70 years age groups.

In group A, 55 (84.4%) of patients and in group B, 48 (75.0%) were free of disease at the end of therapy.

The mean of Dermatological life quality index was 15.5 ± 0.50 and 15.2 ± 0.36 in group A and B respectively at day 0. When reassessment of Dermatological life quality index was done at day 30, it

was found to be decreased to 2.1 ± 0.63 in group A and 3.8 ± 1.56 in group B. Statistically there was no significant difference between mean DLQI of both groups at day 0 and 30.

According to age groups: The Mean DLQI in scabies patients was 18.2 ± 0.64 and 16.1 ± 0.58 in group A1 (24 patients) and group B1(22 patients) respectively at day 0. At day 30 the mean DLQI was decreased to 2.3 ± 1.08 in group A1 and 3.8 ± 1.56 in group B1.

In group A2 (20 patients) the mean DLQI was 15.6 ± 0.79 at day 0 and 16.4 ± 0.48 in group B2 (20 patients) and at day 30 the mean DLQI decreased to 2.1 ± 1.16 in group A2 and in group B2 the mean was 3.3 ± 1.32 .

Table No.1: Comparison of dermatological life quality index (dlqi) of scabies patients on day-0 and day-30 in group A and group B

		Group A	Group B	P-value
		Permethrin Cream (n=64)	Sulfur Ointment (n=62)	
		Mean \pm SEM	Mean \pm SEM	
Quality of life				
QOL	Day - 0	15.5 ± 0.50	15.2 ± 0.36	0.602
	Day - 30	2.1 ± 0.63	3.3 ± 0.79	0.263
Quality of life according to age group				
5-25 years	Day - 0	18.2 ± 0.64	16.1 ± 0.58	N.S.
	Day - 30	2.3 ± 1.08	3.8 ± 1.56	N.S.
26-45 years	Day - 0	15.6 ± 0.79	16.4 ± 0.48	N.S.
	Day - 30	2.1 ± 1.06	3.3 ± 1.32	N.S.
46-70 years	Day - 0	12.0 ± 0.64	12.9 ± 0.46	N.S.
	Day - 30	1.9 ± 1.06	2.6 ± 1.22	N.S.

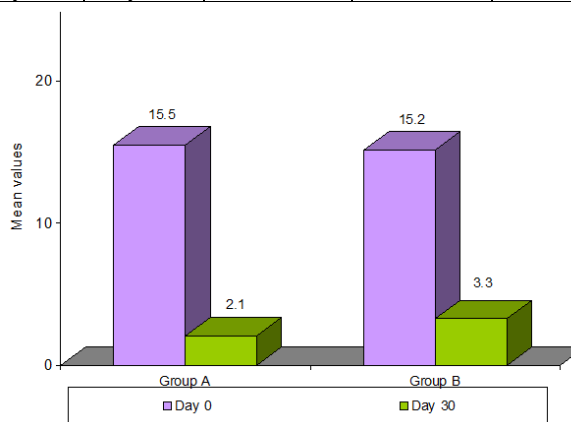


Figure No.1: Comparison of dermatological life quality index (dlqi) in treatment group A and group B

In group A3(20 patients) the mean DLQI at day 0 was 12.9 ± 0.64 and 12.9 ± 0.46 in group B3(20 patients), and at day 30 the mean DLQI was 1.9 ± 1.06 in group A3 and 2.6 ± 1.22 in group B3.

There was no significant difference in all above subgroups between mean DLQI at day 0 and at day 30.

DISCUSSION

Physical, functional, emotional and social well being of an individual is included in Health related Quality of life.¹⁷ The Dermatology life Quality Index (DLQI) is a tool which is used for routine clinical evaluation, clinical decision making and research purpose.^{18,19}

Scabies is a major health related problem affecting population at large in under developed countries and is highly contagious in nature. Lack of hygiene, overcrowding and poor sanitation conditions are conducive for its spread.^{20,21} Scabies in certain societies can lead to social stigmas. It can affect quality of life of an individual affecting his life style and working. Sulphur ointment was used in one study. It not only cured the disease but also improved the quality of life.²² Permethrin which is commonly prescribed treatment and is drug of choice,²³ has not been studied as for as improvement in quality of life is concerned hence it was chosen for this trial to observe any change in quality of life in patients with scabies before and after treatment. For this DLQI tool was used. One patient was lost for follow up. 54 (84.4%) patients were treated successfully thus this study indicated the effectiveness of the drug on the all stages of mite (ova, larvae, and adult).²⁴ Similar result with permethrin was also reported in another study.²⁵ The mean of Dermatology Quality Life Index (DLQI) was observed to be 15.5 ± 0.50 on day 0 in all of our patients which was significantly improved after treatment with 5% permethrin cream. Similar results with some variation were also observed in another study.²⁶ Permethrin was reported to have no systemic side effects with good tolerance by patients. It was effective as majority of patients were cured.^{27,28}

10% sulphur is another effective local therapy for scabies. Its effect on quality of life by using Dermatology Life Quality Index was also observed on patients.²⁹ In total 62 patients completed the study. 48 (75.0%) patients got benefit which showed that it too was also effective therapy. Our results were similar as have been found before with 10% sulphur.³⁰ There was no significant difference when both groups were compared. Our results were with accordance with another study which found that both sulphur and permethrin act against any emerging immature stages of the mites.³¹ Sulphur is the oldest, very effective, cheap and safe antiscabietic in use and is available in various preparations.^{32,33} In this study we determined that scabies has profound effect on patients quality of life which got better after effective treatment. The symptoms of scabies which affects the quality of life such as deterioration of sexual, emotional and psychological wellbeing; all these undesirable effects of scabies were improved in present study after scabiecidal treatment. There are no trails which assessed the quality of life in scabies patients by 5%

permethrin cream but indirect relation to improve the symptoms of disease was explained in one study.³⁴ Another study in which evaluation of quality of life was assessed by using 10% sulphur ointment found that it improved the quality of life by curing the disease.³⁵ This present study showed that both treatments were safe and there was no significant difference statistically between both treatments. Other studies also reported same result.^{36,37} Nocturnal itching associated with scabies disturbed patients sleep during night thus reducing health related quality of life during day time as we observed in present study as well as reported in the studies done in the past.^{38,39}

CONCLUSION

From this study we concluded that quality of life is largely affected in patients suffering from scabies which can be brought back to normal with 5% permethrin cream which effectively treat this disease.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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