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# 10% SULPHUR OINTMENT IMPROVED QUALITY OF LIFE IN SCABIES PATIENTS

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**ABSTRACT:**

**Objective:**To determine the quality of life by using 10% sulphur ointment 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 largely effect the quality of life of patients.10%sulphur ointment is one of the effective treatment of scabies, it is well tolerated ,poorly absorbed and rapidly metabolized by skin.

**Methodology:** This study sample involved 65 clinically diagnosed scabies patients who were treated with 10% sulphur ointment. Clinical data was collected by using questionnaire. Patients were divided into three age groups and given applications of10% sulphur ointment on three successive nights and on day15. Follow up was done on Day 3, Day 15 and Day 30 and there quality of life assessed by 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 10% sulphur ointment 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 get effected because of night itching and lack of sleep which improves significantly following proper local therapy.

**Key Words:** Scabies, 10% sulphur ointment, quality of life.

## INTRODUCTION

Scabies is a common parasitic infection caused by the mite sarcoptes scabiei, it has been problem for human being since dawn of history. Scabies has been known since ancient time[1].

In developed world it occurs as an epidemic in hospitals, nursing homes and long-term facilities. The world wide prevalence has been estimated at about 300 million cases yearly although it is common disease of children but occur in both sexes, at all ages, in all ethnic groups and at all socio-economic levels[2,3,4]. It is major public health problem in developing countries[5]. It is Common in HIV and immunocompromised diseases because of impaired immunity[6].

It has an impact on patient's quality of life[7]. Scabies is one of six major epidermal parasitic skin diseases (EPSD)[8].

Skin diseases pattern may vary with geographical location and environment conditions. In cities like Karachi with hot / humid climate, pollution overcrowding and lack of sanitation predisposes to a variety of dermatological diseases[9].

Due to lack of clinical diagnosis by the physician generally and also prescription of

inadequate or inappropriate medication has contributed to the spread and resistance to therapy[10]. When the patient do not respond to therapy for long time its seriously effects their working ability and quality of life[11]. There are varieties of drugs for scabies treatment but sulphur is one of the effective topical application with, it has given encouraging result as such it was chosen for therapeutic management. It has anti fungal,antibacterial,and keratolytic activity, only 1% topically applied sulphur absorbed topically and low order toxicities[12,13].

## METHDOLOGY

**Study design:**

This was open label clinical trail 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 were enrolled to participate in the trail. Detailed questionnaire was completed and inform 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 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 10% sulphur ointment three successive nights and bath 24 hours after each application 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 applications was re-applied and finally were 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 Ver 7 software, mean±SEM and by Dermatological life quality index (DLQI).

## RESULTS

A total of 65 patients were enrolled and divided according to age into 3 groups, from 5-25years 24 patient ,in 26-45years 21

**TABLE 1**

**GENERAL CHARACTERISTICS OF SUBJECTS IN SCABIES PATIENTS TREATED WITH 10%SULPHUR OINTMENT**

| **Variables** | **10%Sulfur Ointment** (n=65) | |
|---|---|---|
| | **No of patients (n)** | **Percentage (%)** |
| **Age in years** | | |
| 5 – 25 | 24 | 36.9 |
| 26 – 45 | 21 | 32.3 |
| 46 – 70 | 20 | 30.8 |
| Mean ± SEM | 34.0 ± 2.32 | |
| **Gender** | | |
| Male | 24 | 36.9 |
| Female | 41 | 63.1 |
| **Weight in kg** (Mean ± SEM) | 52.6 ± 2.23 | |
| **Family members with scabies** | | |
| None | 12 | 18.5 |
| 1 – 3 | 26 | 40.0 |
| 4 – 5 | 10 | 15.4 |
| 6 & above | 17 | 26.2 |
| **History of Contact** | | |
| Yes | 3 | 4.6 |
| No | 62 | 95.4 |
| **Type of lesion** | | |
| Barrows | 16 | 24.6 |
| Barrows & Vesicles | 47 | 72.3 |
| Barrows. Vesicles & Papule | 2 | 3.1 |

**TABLE 2**
**Dermatological life Quality index (DLQI) in scabies patients on day 0 and day 30 in the treatment of 10%sulphur ointment**

| Parameters | | 10% sulphur ointment (n=65) Mean±SEM |
|---|---|---|
| **Quality of life according to age** | | |
| 5-25 years | Day -0 | 16.1 ± 0.58 |
| | Day – 30 | 3.8 ± 1.56 |
| | | |
| 26-45 years | Day -0 | 16.4 ± 0.48 |
| | Day – 30 | 3.3 ± 1.32 |
| | | |
| 46-70 years | Day -0 | 12.9 ± 0.46 |
| | Day – 30 | 2.6 ± 1.22 |
| **Over all DLQI** | | |
| Day -0 | | 15.2 ± 0.36 |
| Day – 30 | | 3.3 ± 0.79 |

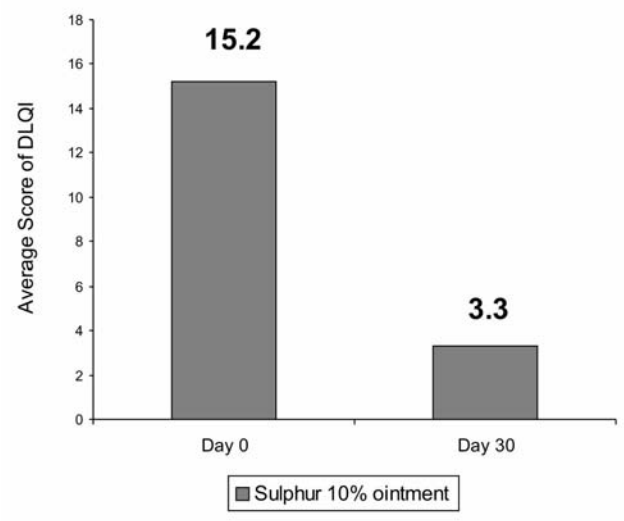
patients and in 46-70 years of age 20 patients were involved, the enrolled 65 patients M=24,F=41 patients. Out of total subjects 12 had no family involvement/close contact, the details are shown in table 1. 48(75.0%) of patients were clinically cured at the end of treatment. Three patient did not turn up for follow up.

The mean±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 age group 5-25 years at day 0 Mean was16.1±0.58 which significantly improved to 3.8±1.56 on the evaluation on 30th day since the enrollment of the patient . In age group 26-45 years at day 0 the Mean was 16.4±0.48 which improved Mean 3.3±1.32 on 30th day of study. In age group 46-70 years at day 0 Mean was 12.9±0.46 which significantly improved on 30th day 2.6±1.22. The overall Mean for all the patient involved irrespective of age group improved to 3.8±1.56 from 16.1±0.58 as shown in table 2.

14 patients out of 65 did not improved and not cured clinically may be due to poor compliance or resistance, three patients not came for follow up.

**FIGURE 1**
**Dermatological life Quality index in scabies patient on day 0 and day 30 in the treatment of 10% sulphur ointment**




## DISCUSSION

The WHO defines quality of life as 'the individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns[14,15]. Quality of life is an important consideration in philosophy, medicine, religion and also in economics and politics. Usually the 'quality of life' is used to describe factors that influence the living conditions of a society or of the society's individuals quality of life also includes physical health, personal circumstances (wealth, living conditions), social relationships, functional activities and pursuits, as well as wider societal and economic influence[16]. Health related quality of life includes physical, functional, social and emotional well being of an individual[17]. The Dermatology Life Quality Index (DLQI) may be used for routine clinical use for clinical evaluation, clinical decision making and research[18,19].

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[20,21]. Scabies also leads to social stigmas in certain societies, However quality of life has not been investigated in patient with scabies after treatment with 10% sulphur ointment 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 life[22].

There are many scabicides for the treatment of scabies how ever 10% sulphur ointment is considered one of the drug for local application in its management 10% sulphur 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 on patient using DQLI[23]. Three patients did not report for follow up and were dropped of the study. Total 64 patients were involved out of which 48 (75.0%) patients were cured thus indicating the efficacy of the drug. Similar results have been reported with 10% sulphur in an other study[24]. However our results were comparatively better then in the above study which was most probably due to the proper explanation regarding the local application of 10%sulphur and the free samples provided to the patients/relatives for treatment. The mean of Dermatology Quality Life Index (DLQI) was 15.2 ± 0.36 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 10% sulphur ointment. Similar results with sulphur have been reported in the past in another study[25] with some variations. Night time pruritus which is a hallmark feature of scabies is an 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].

10% sulphur was found to be effective and well tolerated, with no systemic effects and rapidly metabolized have been reported in the past[28]. 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 symptoms[29].

## CONCLUSION

The results of study suggest that Scabies largely effects the quality of life of patients. However treatment with 10% sulphur ointment causes reversal of symptoms and brings the quality of life of the affected patients back to normal.

## REFERENCES

1. Ramos-e-Silva Giovan Cosimo Bonomo (1663-1696): Discoverer of the etiology of scabies. Intern J Dermatolo 1998; 37(8):625-630.
2. Downs AMR, Harvey I and Kennedy CTC. The epidemiology of head lice and scabies in the UK. Epidemiol Infect 1999; 122:471-477.
3. Walton SF and Currie BJ. Problems in diagnosing scabies, a global disease in human and animal populations. Clin Microbiol Rev 2007; 20(2):268-279.
4. Benez JA, Nazareno RC and Medel RB. Clinical trial on the effectiveness of Gliricidia sepium (Kakawati) in treating patients with scabies in the antipolo CBHP. Phil J Microbiol Infect Dis 1999; 28(4):147-153.
5. Iqbal J, Shahid M and Mann MA. Scabies: Oral Ivermectin as the treatment. Professional Med J 2009; 16(2):263-269.
6. Gibbs S and Waugh M. Community Dermagology. HIV infections and AIDS. J Comm Dermatol 2006; 3:1-6.
7. Alvarenga .M.M.T and Caldeira.A.P Quality of lfe in pediatric patients with atopic dermatitis,Journal de pediatria 2009;0021-7557/09/85-05/415.
8. McCroskey AL, O'Connor E. Scabies in emergency medicine. Medscape, 2010; 1-3.
9. Pediatric dermatology: an audit at Hamdard University Hospital, Karachi. J Pak Assoc Dermatologists 2006; 16:93-96.
10. Karthikeyan K. treatment of scabies: newer perspectives. Postgrad Med J 2005; 81:7-11.
11. Heukelbach .J,Wilcke.T and others Epidemiology and morbidity of scabies and pediculosis capitis in resource-poor communities in brazil. Epidemilogy and Health Services Research 2005;DOI10.1111/j.1365-2133.2005.06591.x.
12. Lin AN, Reimer RJ and Carter DM. Sulfur revisted. J Am Acad Dermatol 1988; 18(3):553-558.
13. AHFS Detailed Monograph. Resorcinol-Sulfur top. Online communication. File://C\Documents and Settings 28.05.2010.
14. WHO QOL group. World health organization Quality of life assessment. Wrold Health Forum 1996; 17(4):354-356.
15. The World Health organization Quality of Life assessment (WHOQOL): position paper from the World Health Organization. Soc Sci Med 1995; 41:1403-1409.
16. Felced D, Perry J. quality of life: its definition and measurement. Res Dev Disabil 1995; 16:51-74.
17. Donald A. What is quality of life? Health Economics 2009; 1-8.
18. Finlay AY and Khan GK. Dermatology life quality index information and conditions concerning use. The Dermatology Life Quality Index, 2011
19. Lewis-Jones MS and Finlay AY. The children's dermatology life quality index (CDLQI): intial validation and practical use. Br J Dermatol 1995; 132(6):942-849.
20. Raza N, Qadir SNR and Agha H. Risk factors for scabies among male soldiers in Pakistan: case-control study. East Mediter Health J 2009; 15(2):1105-1110.
21. Cordoro.M.Kelly,Elston M Drik. Dermatological manifestation of scabies 2009;htt/emedicine.medscape.com/article/1109204.
22. Jin-gang A, Sheng-xang X, Sheng-bin X, Jun-min W, Song-mei G, Ying-ying D, Jung-hong M, Qing-qiang X and Xiao-peng W. Quality of life of patients with scabies. J Euro Acad Dermatol Venereol 2010; 24(10):1187-1191.
23. Ishuii N. guideline for the diagnosis and treatment of scabies in Japan (second edition). Japanese Dermatol Assoc 2008; 35:378-393.
24. IGupta AK, Nicol K. The use of sulfur in dermatology (FOCUS ON: The use of sulfur in dermatology). J Drugs in Dermatol 2004;
25. Pruksachatkunakorn C, Damrongsak M and Sinthupuan S. Pharmacology and therapeutics. Sulfur for scabies outbreaks in orphanages. Pediatric Dermatol 2002; 19(5):448-453.
26. Zachariae R, Zachariae COC, Ulrikke LEF and Pedersen A. Affective and sensory dimensions of pruritus severity: associations with psychological symptoms and quality of life in psoriasis patients. Acta Derm Venerol 2008; 88:121-127.
27. Moses Scott, pruritus 2003;American Academy of Family Physician.68:1135-42,1145-6.
28. Leslie KS, Millington GW and Levell NJ. Sulphur and skin: from Satan to Saddam. J Cosmet Dermatol 2004; 3(2):94-98.
29. Kadir MA, Al-Sanafi AE and Assi FN. Comparison between the efficacy of sulphur and garlic in treatment of scabies. Med J Turk Univer 1999; 5:122-125.