



METHOTREXATE; OUTCOME IN THE TREATMENT OF PLAQUE PSORIASIS

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INTRODUCTION

Plaque psoriasis is the disorder of skin distinguished by abruptly differentiated as squamous lesions, erythematous.¹ Psoriasis is a long-term autoimmune disorder that is distinguished through patches of atypical skin. These patches on skin are classically scaly, itchy, and red. These patches can possibly differ in severity from lesser & limited to full body exposure. Damage to skin might activate psoriatic skin modifications over that site, termed as Koebner phenomenon.² Psoriasis vulgaris (as well, termed as plaque-like psoriasis or psoriasis plaque like) is the commonest type as well as affects 85% to 90% of individuals having psoriasis.³ Plaque psoriasis classically emerges as lifted sites of inflamed skin surrounded by scaly skin being silvery-white. These sites are termed as plaques as well as are most frequently observed over the knees, elbows, back, and scalp.^{3,4}

ABSTRACT... Objectives: To determine the efficacy of methotrexate as a treatment option for plaque psoriasis. **Study Design:** Cross sectional study. **Setting:** Dermatology Department, of Liaquat University hospital Hyderabad. **Period:** 6 month duration from January 2016 to June 2016. **Material & Methods:** All the cases more than 20 years of the age having severe-to-moderate chronic plaque psoriasis were selected in the study. All the patients were underwent complete medical history and clinical examination. All the patients with history of severe comorbidities were not included. All the patients were underwent oral methotrexate treatment. All the information as: disease duration, involved site and plaque size was recorded. Efficacy was assessed according to PASI score on starting and after 12 weeks. **Results:** Patients' mean age was 40.73 years. Male were found in the majority 75.50%, while 24.50 % were female. In this study mean duration of disease was 7.38 ± 3.46 months and mean duration of plaque size was 6.63 ± 2.07 . Commonest site involved in psoriasis was scalp+elbow seen in 27(55.1%). Psoriasis show significant good outcome after treatment of methotrexate, 9 patients did not completed their treatment in remaining 40 cases starting PASI score was 11.97 ± 1.40 and after 12 weeks treatment significantly decreased as 6.48 ± 2.45 and mean of clearance time was 8.10 ± 2.02 weeks. **Conclusion:** Methotrexate showed significant satisfactory results in the therapy required for plaque psoriasis as well as enhanced quality of life.

Key word: Methotrexate, Plaque psoriasis, efficacy

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With a projected global incidence of 0.1-18%,¹ western nation estimately effected 2 to 4% by psoriasis.⁵ The frequency of psoriasis differs in relation to gender, age, ethnicity and region; an incorporation of genetic and environmental factors is believed to be accountable for these variances.⁵ It can take place at any stage of life, even though it most frequently emerges initially between 15 to 25 years of age. Almost 1/3 of infected individuals suffering from psoriasis are described as being detected prior the age of 20 years.⁶ Both genders equally effected by Psoriasis. Psoriasis found nearly 7,500,000 in Americans in addition takes place more commonly between 15 to 50 years of age. Individuals suffering from inflammatory bowel disorder for example ulcerative colitis or Crohn's disorder are at an elevated risk of acquiring psoriasis. It is further frequent among nations away from the equator. White European lineage individuals

are further expected to suffer from psoriasis in addition the condition is comparatively infrequent among African Americans as well as very infrequent among Native Americans.⁷ Among individuals of under developed nations such as Pakistan, methotrexate is a cost-effective & active anti-psoriatic agent as well as is prescribed on behalf of general plaque type psoriasis, acute pustular, severe psoriatic and erythrodermic arthropathy. The distinguishing lesions comprise sharply demarcated, scaly, indurated plaques, red, present predominantly over scalp and extensor surfaces. Chronic plaque psoriasis is approximated to have global incidence of 0.1% to 3%.⁵ Nearly half of infected individuals can possibly enter the retardation phase unexpectedly for various phases of time period.⁶ Topical treatment is reflected as the primary treatment for psoriasis, though a number of infected individuals do not counter or suffer from extensive disorder. Systemic treatment is prerequisite for these infected individuals, which comprise conventional systemic, photo chemotherapy as well as further freshly biological agents.^{10,11}

Methotrexate was initially practiced for psoriasis because of its effect over quickly dividing keratinocytes; though it as well keeps immunomodulating and anti-inflammatory properties. Methotrexate yet denotes a therapy choice with reliable efficacy & tolerance specially among poor nations.¹² Based on the accessible clinical facts it is recommended that the methotrexate can possibly decrease the psoriasis severity in nearly 75% of infected individuals.¹³ Psoriasis is a recurrent skin infection and extensive disorder commonly does not responds to topical therapy. Thus the purpose of this study was to assess the effectiveness of methotrexate so that it can be practiced in subsequent infected individuals as an economical therapy.

MATERIAL AND METHODS

This cross sectional study was held in dermatology department of Liaquat University Hospital Hyderabad with 6 month duration from January 2016 to June 2016. All the cases more than 20 years of the age, both genders, having severe -to- moderate chronic plaque psoriasis and had

not earlier been treated with methotrexate were selected in this study. All the infected individuals were underwent complete medical history and clinical examination. All the patients with history of severe comorbidities like as hypertension, DM, a elevated risk of hepatic-function anomalies; severe to moderate anemia, a positive serologic test concerning hepatitis B or C virus, leukemia, severe cardiovascular, thrombocytopenia, pulmonary, cancer, neurologic, cerebral, or hematologic disorder were excluded from study. Infected individuals were as well excluded who were breast-feeding, pregnant, or noncompliant with an applicable procedure of contraception. Infected individuals who were previously receiving therapy for psoriasis by Methotrexate or any further drug were excluded. All the infected individuals underwent oral methotrexate treatment. All the data was documented on the preplanned proforma from every infected individual and comprised demographic profile (gender & age), disease duration, involved site, plaque severity PASI score prior to establish the therapy. Weekly medical history, routine laboratory investigations and skin examination were conducted to observe the methotrexate's side effects. Efficacy was assessed according to PASI score on starting and after 12 weeks. Analysis of data was carried out by SPSS 16.0 for descriptive statistics.

RESULTS

Mean age of the patients in this study was 40.73 years and standard deviation was 3.16 years. While minimum age was 20 years and maximum was 71 years. Table-I

Mean	40.73 years
Std. Deviation	3.16 years
Minimum	20.00 years
Maximum	71.00 years

Table-I. Age distribution of the patients n=49

Male were found in the majority 75.50% as compare to females 24.50 %. Figure-1

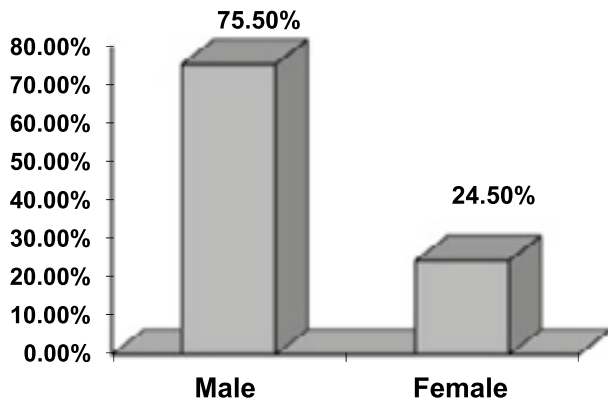


Figure-1. Gender distribution of the patients n=49

Commonest site involved in psoriasis was scalp + elbow seen in 27(55.1%) followed by scalp + elbow + nails in 13(26.5%), scalp+elbow+knee in 2(4.1%), scalp+elbow +knee+arm seen in 2(4.1%), scalp+nail+upper back in 2(4.1%) and elbow + knee, upper back in 2(4.1%) patients. Table-II

	Frequency	Percent
Elbow, Knee, upper back	02	4.1%
Scalp, elbows, knees	02	4.1%
Scalp, elbows, knees, arms	02	4.1%
Scalp, knees	01	2.0%
Scalp, elbows, nails	13	26.4%
Scalp, elbows	27	55.1%
Scalp, nails, upper back	02	4.1%
Total	49	100.0%

Table-II. Site involvement in psoriasis n=49

In this study, mean duration of disease was 7.38 ± 3.46 months. While mean duration of plaque size was 6.63± 2.07. Table-III

Disease duration and plaque site	Mean	SD
Disease duration	7.38	3.46
Plaque size	6.63	2.07

Table-III. Patients distribution according to disease duration and plaque size n=49

Psoriasis show significant outcome after treatment of methotrexate, 9 patients did not competed their treatment, out of them 5 cases due to side effects and 3 patients did come in follow up. In remaining 40 cases starting PASI score was 11.97±1.40 and after 12 weeks treatment significantly decreased

as 6.48±2.45 and mean of clearance time was 8.10+2.02 weeks. Table-IV

	PASI (Mean ± SD)
On starting	11.97±1.40
After 12 weeks	6.48±2.45
Clearance time	8.10+2.02 weeks

Table-IV. Patients distribution according to efficacy of methotrexate n=40

DISCUSSION

Psoriasis is believed to be an autoimmune disorder involving a significant contribution of environmental and genetic factors.¹⁴ Even though there are several effective therapy choices regarding skin psoriasis, the options are further limited for plaque psoriasis. Therapy regimes should be individualized in line with sex, age, personal motivation, occupation, additional health situations and presence of treatment resources. Mean age of infected individuals in this study was 40.73 years. Minimum age was 20 years and maximum was 71 years, male were found in majority 75.50% as compare to females 24.50%. Similarly Karn D et al¹⁵ reported that majority of infected individuals (31.25%) with 40 to 49 years of age, as well as above 80% of cases had disorder onset prior to 49 years. Haider S et al¹⁶ reported that 86 effected individuals were with 18 to 50 years of age group and (Mean ± SD was 40.0±12.6), and majority of men 45 (61.6%) as well as 28 (38.4%) women.

In this study commonest site involved in psoriasis was scalp+elbow seen in 27(55.1%) followed by scalp+elbow+nails in 13(26.5%), scalp+elbow+knee in 2(4.1%), scalp+elbow +knee+arm seen in 2(4.1%), scalp+nail+upper back in 2(4.1%) and elbow+ knee, upper back in 2(4.1%) patients. Comparatively in other studies mentioned that 85% to 90% of infected individuals, the most predominant type of psoriasis incidence of elevated plaques having silvery scales that can occur at any site of the skin, however these are most frequently observed on the back, scalp, and the extensor surfaces (knees & elbows).^{4,17,18}

In our study methotrexate show significant outcome after treatment of psoriasis, 9 patients

did not completed their treatment, out of them 5 cases due to side effects and 3 patients did come in follow up. In remaining 40 cases starting PASI score was 11.97 ± 1.40 and after 12 weeks treatment significantly decreased as 6.48 ± 2.45 and mean of clearance time was 8.10 ± 2.02 weeks. As well as in a study done by Opmeer BC et al.¹⁹ stated that base line PASI score were 13.4 ± 3.6 and at the end of 16 week were 5.0 ± 4.5 . Haider S et al¹⁶ reported that mean reference point PASI score prior to the therapy was 14.8 ± 4.2 as well as at the end of 8 weeks of therapy was 4.9 ± 4.3 . Raza N et al²⁰ reported that methotrexate still correspond to a therapy choice with reliable efficacy & tolerance particularly among poor nations. Naldi L et al²¹ Based on the accessible clinical facts it is recommended that the methotrexate can possibly decrease the psoriasis severity in nearly 75% of cases.

CONCLUSION

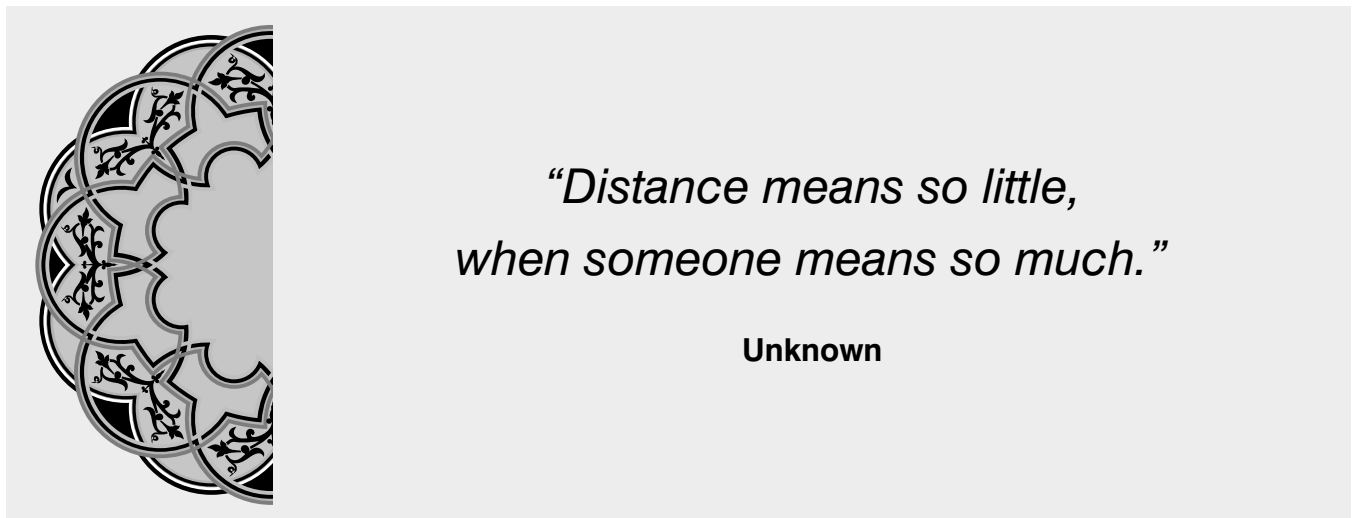
We concluded that methotrexate showed significant satisfactory results in the treatment of psoriasis as well as enhanced quality of life. More big sample size studies are required to evaluate the more accurate results.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Dr. M. Yasir Qureshi	Collect data and writing manuscript	
2	Dr. Zaheer Hussain Memon	Writing manuscript and data analysis	
3	Dr. Ishrat Bibi	Collection data and writing manuscript	