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# An Assessment of the Efficacy of Clotrimazole 1% In the Treatment of Fungal Infections in a Government Hospital in South India

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## KEYWORDS

Clotrimazole,  
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## ABSTRACT:

Background: This study was carried out in order to assess the efficacy of Clotrimazole 1% cream ,a commonly used drug for the treatment of fungal infections, in a government hospital in South India.A total of 96 patients were included in the study,clotrimazole cream 1% was prescribed to all patients along with advice on cleanliness and clothing.A complete cure was seen in only 20% of the patients.

## INTRODUCTION

Clotrimazole is an azole antifungal drug. Clotrimazole falls into the imidazole subclass of azole drugs!. It is available both in cream formulation and as a tablet. The cream is commonly used in the treatment of fungal infections such as Tinea cruris, tinea corporis, tinea facie, etc. It is a broad spectrum antifungal activity and is also used in the treatment of candidal infection and tinea versicolor<sup>2</sup>. It is effective against Trichophyton rubrum, Trichophyton mentagrophytes, Epidermophyton floccosum, Microsporum canis .Its mechanism of action is by inhibition of the biosynthesis of ergosterol thereby causing leakiness in the cell wall membrane<sup>3</sup>.Several new antifungal creams are available such as topical ketoconazole cream, miconazole cream, terbinafine cream and eberconazole cream to mention a few of them<sup>4</sup>.Clotrimazole cream is however most commonly being used especially in government hospitals as it also happens to be the cheapest among the antifungal creams .In this study we try to assess the efficacy of clotrimazole 1% cream in patients at a government hospital in Dharwad, Karnataka.

## AIMS AND OBJECTIVES

To study the efficacy of clotrimazole in the treatment of fungal infections in a government hospital in south India.

## MATERIALS AND METHODS

A total of 96 patients were included in the study.The study was conducted in the dermatology department of Government hospital, Dharwad between Feb 2018 to August 2018.Diagnosis of a fungal infection was made based on the presence of itching and clinical observation of annular scaly plaques with advancing border. In doubtful cases ,skin scrapings were taken from the lesions for KOH mount to asses for the presence of fungal elements.The study included both males and females of all ages.

After confirming the diagnosis of fungal infection, the patients were advised to apply the antifungal cream twice daily to the affected area for a period of four weeks.They were advised to take a bath daily and to wear fresh cotton, washed clothes daily.

## Exclusion criteria

Patients allergic to clotrimazole, pregnant and lactating females were not included in the study.



### Follow up

All patients irrespective of their symptoms were asked to report for follow up at the end of one month and two months. Those patients who still had signs and symptoms at the end of one month were asked to continue applying topical clotrimazole cream. They were further assessed at the end of two months for the improvement or resolution of symptoms and signs.

### RESULTS

A total of 96 patients were included for the study which included 50 males and 46 females with ratio of 1.08:1.

#### Age distribution

The age distribution was as follows :

**Table 1: Age distribution**

Age	Number	Percentage
1-10 YEARS	4	4.16%
10-20 YEARS	16	16.66%
20-30 YEARS	12	12.50%
30-40 YEARS	14	14.58%
40-50 YEARS	22	22.91%
50-60 YEARS	12	12.50%
>70 YEARS	16	16.66%

The majority of the patients(70.87%) were below 50 years of age( $p < 0.01$ ) with maximum patients being in the age group of 40-50 years(22.91%)

#### Occupation

The majority of the patients were coolies .This was followed by farmers,house wives and students.

#### Poverty Line

Majority of the patients (85.65%) were below the poverty line as assessed by the possession of a BPL Ration card.However clotrimazole 1% cream was provided free to all the patients irrespective of their economic status.

**Table 2: Localization of Fungal Infection**

Body part Affected	Number of patients	Percentage
Tinea facie	11	11.45%
Tinea corporis	60	62.50%
Tinea cruris	22	22.91%
Tinea pedis	2	2.08%
Tinea Manuum	1	1.04%

#### Response to Treatment

A complete cure with resolution of skin lesions and itching was seen in 16 patients(18.66%) at the end of one month.80 patients(83.33%) continued to have itching with only partial resolution of skin lesions( $P < 0.05$ ). They were prescribed another course of clotrimazole 1 % cream. At the end of two months a further 4 patients were assessed to have been cured.Thus only 20% of the patients had complete cure.

**Table 3: Follow up period**

Symptoms	one month	Two months
Number of patients with resolution of symptoms	16	20
Number of patients with persistent symptoms	80	76

#### Compliance and Confounding factors

An advice of cleanliness, the need to take a bath daily, and wearing of nonocclusive cotton clothing was stressed at the beginning of the treatment. However because of the poor socioeconomic status of majority of the patients, this advice was followed by only a small minority of the patients.

### DISCUSSION

Fungal infections are very common worldwide, more so in socioeconomically backward countries such as India.



Most government hospitals, such as district hospitals and taluka hospitals in India provide free clotrimazole 1% creams to its patients. Several studies have assessed the efficacy of clotrimazole to between 80-90% such as studies by Sharma *et al.*(1993)<sup>5</sup>. Manasi *et al.*(2011)<sup>6</sup>. However these studies have not been conducted in government hospitals. If clotrimazole was as effective as these studies claim then there wouldn't be the need for so many newer antifungal creams which cost far more than clotrimazole cream. Clotrimazole resistance is a problem particularly in immunocompromised patient populations.

## CONCLUSION

The study was conducted to study the efficacy of clotrimazole 1% cream which is widely used in Government hospitals. Although the study showed a cure rate of only 20%, the cream may actually be more efficacious than this, if factors such as hygiene and clothing are taken into account. It is however rarely prescribed in the private sector as a first line treatment, in view of the emergence of resistance and a large number of more efficacious creams. Governments should carry out more larger studies on the efficacy of clotrimazole and consider replacing it with more efficacious creams despite the cost.

## Cost of Antifungal creams in India

Clotrimazole cream - Rs 40

Terbinafine cream - Rs 80

Ketoconazole cream -Rs140

Eberconazole cream-Rs 180

Luliconazole cream-Rs 200

## REFERENCES

1. Fernandez - Torres B, Inza I, Guarro J. Evaluation of disk diffusion method for determining eberconazole susceptibility of dermatophytes and influence of culture medium. *Antimicrobial Agents And Chemotherapy*. 2005;49:2116–2118
2. Stary A, Soeltz-Szoets J, Ziegler C, Kinghorn GR, Roy RB. Comparison of the efficacy and safety of oral fluconazole and topical clotrimazole in patients with Candida balanitis. *Genitourin Med*. 1996;72:98–102.
3. Crawford F, Hollis S: Topical treatments for fungal infections of the skin and nails of the foot. *Cochrane Database Syst Rev*. 2007, 3:10-14
4. Bell-Syer SE, Khan SM, Torgerson DJ: Oral treatments for fungal infections of the skin of the foot. *Cochrane Database Syst Rev*. 2012, 10:37-44
5. Sharma VK, Gupta V, Ramam M. *Indian J Dermatol Venereol Leprol* 2018;84:314-5
6. Manasi Banerjee, Asim Kumar Ghosh, Sukumar Basak, Kapil Dev Das, and Dwijendra Nath Gangopadhyay. Comparative evaluation of effectivity and safety of topical amorolfine and clotrimazole in the treatment of Tinea corporis. *Indian J Dermatol*. 2011 Nov-Dec; 56(6): 657–662