Drug Prescribing Pattern of Antifungal Drugs for Local Fungal Infections at a Tertiary Care Hospital, Palanpur, Gujarat

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Abstract

Aim: Present research was performed to know the pattern of dermatological diseases in this area and to study the prescription pattern of antifungals in this organization.

Material and Methods: Present research was performed at Banas Medical College And Research Institute, Palanpur, Gujarat. Data of drugs prescribed were taken from subject's prescription. Prescriptions incorporated all recently diagnosed subjects with cutaneous fungal infection of both genders who attended Dermatology OPD. Factors measured were sociodemographic parameters, number of subjects with combination and monotherapy, number of single topical agents and Fixed Dose Combination (FDC) details of prescribing indicators.

Results: The findings of current research described that out of 2700 prescriptions studied, 1000 prescriptions were of fungal infection. Clotrimazole and Terbinafine were the most frequently prescribed drugs in single topical agents followed by Ketoconazole and Luliconazole. Average number of drugs prescribed per encounter is 3.18. Average number of antifungals prescribed per encounter is 2.01.

Conclusion: Most frequent oral antifungal drug and topical antifungal drug were Clotrimazole and Terbinafine respectively. Combination antifungal therapy was more commonly used than monotherapy.

Key Words: Clotrimazole, Fungal Infections, Prescription, Terbinafine

Background

Skin diseases are frequent and forms 18th leading cause of health load worldwide. 2% of total Out Subject Department (OPD) consultations global are constituted by skin disorders. In India country skin disorders are common and comprise pyoderma, acne, urticaria, dermatitis, scabies, fungal skin infections, alopecia etc [1,2]. There are numerous antifungal drugs which are utilized to manage fungal infection. Although for successful treatment selection of most suitable drug for fungal infection is necessary. Antifungals in dermatophytes managements are classified which include itraconazole, fluconazole belongs to triazole group, terbinafine belongs to allylamine correspondingly [3] Antifungal therapy has undergone an incredible renovation in current years [4].

Unfortunate utilization of antifungal agents is concerned in the development of antifungal conflict and can guide to

unfavorable outcomes like persistent infections, needless exposure and augmented price [5,6] On the other hand, data on antifungal expenditure in high-risk areas are limited. Such data are necessary to address public health problems connected to the efficiency of antifungal medications [7]. This difficulty is of meticulous apprehension for developing countries as they do not have well recognized antifungal management protocols or/and programs. Additionally, there is too inadequate data on the incidence or/and prevalence of inappropriate antifungal utilization and the risk factors connected with it in these countries.[5] Drug utilization research are the influential examining tools to determine the role of drugs in the society which refers to the advertising, allocation, prescription and utilization of drugs with particular emphasis on the medical, social and economic cost. Periodic prescription audit in form of drug utilization research is a method to advance the quality of prescription and endorse balanced prescribing [8].

Greater part of the fungal infections are effortlessly diagnosed and managed. Present Research is proposed to determine the pattern of dermatological diseases in this locality and to study the prescription pattern of antifungals in this organization. Present research will assist in understanding antifungal prescription practices and too in rising local policies for appropriate utilization of antifungal drugs.

Material and Methods

Present observational research was performed at Banas Medical College And Research Institute, Palanpur, Gujarat. Data of drugs prescribed were taken from subject's prescription. Ethical approval was taken from the institutional ethical committee and written informed consent was taken from all the participants. This study was observational conducted over six month's period. All cases in dermatology OPD of Banas Medical College And Research Institute were included in study population.

Inclusion criteria were: subjects between 16-70 years of either gender who visited Dermatology department and were prescribed antifungal drugs.

Exclusion criteria were subjects who were not willing to precipitate in the research and who had systemic disease.

All essential and pertinent subject information and drugs prescribed were composed from subject's prescription. Aspects investigated were:

- Demographic Details
- The illness come upon
- Subjects who received combination antifungal therapy
- The different oral agents and the number of encounters with every agent

Information of prescribing indicators:

- The average number of systemic antifungal drugs prescribed per encounter
- The average number of topical antifungal drugs prescribed per encounter
- The average number of drugs prescribed per encounter
- The percentage of encounters with fixed dose combinations

Statistical analysis

The recorded data was compiled and entered in a spreadsheet computer program (Microsoft Excel 2007) and then exported to data editor page of SPSS version 15 (SPSS Inc., Chicago, Illinois, USA). For all tests, confidence level and level of significance were set at 95% and 5% respectively.

Results

The findings of the present research described that out of 2700 prescriptions studied, 1000 prescriptions were of fungal infection.

Out of 1000 prescriptions, 594 (59.4%) were of males and 406 (40.6%) of females. Maximum subjects belonged to age group 18-36 years which was followed by 340 subjects in 0-17 age group; It was observed that the subjects in two extreme age groups were smaller compared to the group of utmost numbers. (Table 1)

Around 54% subjects were students, followed by home- makers (24%). The residual subjects belonged to the occupied group and others came around 6%. The maximum number of subjects belonged to the group of students. (Table 2)

Out of 1000 prescriptions considered, 200 subjects received monotherapy. Around 800 subjects received combination therapy. Combination therapy included oral and topical therapy.

Clotrimazole and Terbinafine were the most frequently prescribed drugs in single topical agents which were around 30%, followed by Ketoconazole, Luliconazole and Miconazole. Table 3 describes details on prescribing indicators Out of 2700 prescriptions, 1000 were of antifungals. The other commonly drugs were antihistamines, topical steroids and vitamins. Average number of drugs prescribed per encounter is 3.18. Average number of antifungals prescribed per encounter is 2.01. Average number of systematic antifungal drugs prescribed per encounter is 1. Percentages of encounters with injections were 0.39%. Percentages of encounters with fixed dose combination are 17.39%. Percentages of drugs prescribed from WHO-EML were 33.06%. 66.8% of drugs were from NLEM.

Table 1: Age Distribution of subjects

Age group (Years)	Number of Subjects (1000)	Percentage (%)
0-17	340	34
18-36	400	40
37-60	260	26

Table 2: Distribution of subjects with occupation

Occupation	Number of Subjects (1000)	Percentage (%)
Home makers	240	24
Occupied	160	16
Students	540	54
Nil	60	6

Table 3: Details on prescribing indicators

Indicators	Numbers
Average number of drugs prescribed per encounter	3.18
Average number of antifungal prescribed per encounter	2.01
Average number of systematic antifungal drugs prescribed per encounter	1
Average number of topical antifungal drugs prescribed per encounter	1.11
Percentage of encounters with fixed dose combinations	17.39%
Percentage of encounters with injections	0.39%
Percentage of drugs prescribed from NLEM	66.8%
Percentage of drugs prescribed from WHO EML	33.06%

Discussion

Skin diseases have a grim bang on people's quality of life in developing countries; additional in India where weather, socioeconomic status, religions and society are extensively diverse in dissimilar parts of the nation [9].

Drug utilization research's center on factors connected to prescribing, dispensing, administering and taking of medication and its connected actions like covering the medical and non-medical determinants. Moreover it focus on the things of drug utilization, in addition to the researches of how drug utilization narrates to the things of drug utilization and its reward or disadvantages [9,10].

Further than whole subjects with fungal infections of skin, most widespread age group was 18-36 years. Results of these were in harmony with the researchers performed by Pathak *et al* [11] and Vineeta *et al* [12]. Out of 1000 subjects, 594 were of males and 406 of females. Results of these were in harmony with research carry out by Rajathilagam T [13].

The majority of the subject were students followed by home workers. Vegda *et al* performed research described frequently homemakers were affected than other counterparts [14]. Similar findings were observed by Andrea *et al* [15].

The majority of the fungal infections can be handled with topical therapy only. On the other hand, to augment cure rate, topical and systematic medications were frequently united. In the present research around 80% of subjects received combination of topical and systematic therapy, which were comparable to the research done by Minocha *et al* [16].

In the present research it was observed that Terbinafine was the most frequently prescribed oral antifungal. Similar Findings were observed by Rajathilagam T *et al* [13] and Meyer E *et al* [17]. Fluconazole is an extensively utilized azole since of its extended half-life, high-quality subject acceptability and negligible connected toxicity [18].

In the present research, most frequently prescribed topical antifungal agent was clotrimazole and Terbinafine, followed by Ketoconazole. Findings of this were in accordance with research performed by Rajathilagam T *et al* [13].

Average 3.18 drugs per encounter were prescribed. Vegada BN performed a research observed that average 3.39 drugs per encounter were prescribed [14] in the study done by Gopimohan *et al* alike findings were observed [19]. Patil *et al* research described average number of drugs per prescription was 3.27 [20]. Polypharmacy can lead to poor observance, drug interactions, and unpleasant drug reactions, underutilization of effectual managements, and augmented rate of therapy.

Drug interactions owing to polypharmacy may guide to increased hospitalization and raising the charge of management over again. In the present research generic drug utilization is less significant than the WHO normal value.

Information and statistics of the present research were acquired from the electronic records and this imperfect our aptitude to collect information about the nature of the isolated microorganisms, the prevalence of antifungal resistance and subject's clinical result.

Conclusion

Most widespread oral antifungal drug and topical antifungal drug were Clotrimazole and Terbinafine correspondingly. Mixture antifungal therapy was more frequently utilized than monotherapy.

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