

**RATIONAL USE OF FLUCONAZOLE PRIOR TO ATTENDING SKIN & VD-OPD IN A TERTIARY MEDICAL COLLEGE HOSPITAL IN BANGLADESH**

RACJONALNE WYKORZYSTANIE FLUKONAZOLU PRZEZ PROWADZĄCYCH ODDZIAŁ DERMATO-WENEROLOGICZNY W TERTIARY MEDICAL COLLEGE HOSPITAL W BANGLADESZU

Rokon Uddin<sup>1</sup>, Khondaker Bulbul Sarwar<sup>2</sup>, Farzana Akhter<sup>3</sup><sup>1</sup>*Department of skin & VD, Enam Medical College & Hospital, Savar, Dhaka, Bangladesh*<sup>2</sup>*Department of Community Medicine, Ibn Sina Medical College & Hospital, Kallyanpur, Dhaka, Bangladesh*<sup>3</sup>*Skin & VD, Upozila Health Complex, Savar, Dhaka, Bangladesh***Corresponding author:** Dr. Rokon Uddin [drrokon47@gmail.com](mailto:drrokon47@gmail.com)

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Conflicts of interest: None

**Abstract**

This study was done keeping the hypothesis in mind that Fluconazole is used irrationally irrespective of diagnosis. **Material:** All patients attending at Skin-VD OPD of Enam Medical College Hospital during a 6-month time-period (July-Dec, 2009) were considered for this research. Structured questionnaire, check-list and face-to-face interview were used as data collection tools. After careful analysis, 274 cases were found valid out of 976 respondents. The cases were mostly adult (>20 yrs., 70.4%), dominated by male (58%), marriage (54%), literacy (71.6%) and coming from far (>5 km; 65.9%). The referral was made by registered doctors (10.9%), village doctors and/or drug-sellers (50.3%) and self (38.8%). Out of the total Fluconazole-intakers (N=119), it was found that correct prescription done by registered doctors (10.08%), village doctors and/or drug sellers (9.24%) and by self (0.8%) was very few. The respondents wrongly-taken Fluconazole were finally diagnosed as case of psoriasis (21.84%), atopic dermatitis (13.44%) seborrheic dermatitis (12.6%) and so on. **Results:** The findings put this recommendation that prior to confirm diagnosis, use of Fluconazole was not rational for generalized skin lesions.

**Streszczenie**

Badania przeprowadzono stawiając hipotezę, iż Flukonazol jest używany irracjonalnie, niezależnie od diagnozy. **Materiały:** wszyscy pacjenci prowadzeni byli przez lekarzy z Oddziału skórno-wenerologicznego z Enam Medical College Hospital w okresie sześciu miesięcy (lipiec-grudzień 2009). Skonstruowany dokładny kwestionariusz, lista kontrolna i osobisty wywiad zostały użyte jako narzędzia do zbierania danych. Po szczegółowej analizie wyodrębniono 274 z spośród 976 respondentów. Osoby były głównie dorosłe (> 20 lat, 70,4%), przeważali mężczyźni (58%), małżeństwa (54%), piśmienne (71,6%) i pochodzące z daleka (> 5 km; 65,9%). Skierowania były wystawione przez: zarejestrowanych lekarzy (10,9%), lekarzy praktykujących na wsi i / lub sprzedawców leków (50,3%) oraz osobiście (38,8%). Z ogólnej liczby osób stosujących flukonazol (N = 119) stwierdzono, że jego wypisanie na receptę było uzasadnione tylko w niewielkim odsetku przez: zarejestrowanych lekarzy (10,08%), lekarze ze wsi i / lub sprzedawców leków (9,24%) a osobiście (0,8%). U respondentów u których niewłaściwie stosowano Flukonazol ostatecznie rozpoznano: łuszczycę – (w 21,84% przypadków), atopowe zapalenie skóry (13,44%) łojotokowe zapalenie skóry (12,6%). **Wyniki:** Wyniki realizacji niniejszego badania pokazały, że wykorzystanie Flukonazolu do leczenia ogólnych zmian skórnych przed postawieniem diagnozy nie było racjonalne.

**Key words:** anti fungal drug; rational use of Fluconazole; malpractice; Fluconazole**Słowa kluczowe:** leki przeciwgrzybicze; racjonalne wykorzystanie Flukonazolu; nadużywanie; Fluconazol**Introduction**

Bangladesh is a densely populated country with 150 million people in a 144 thousand sq.km. pocket [1]. We are placed in the tropical region with endemic prevalence of communicable [2] diseases, notably overburdened with non-communicable and contagious

diseases too. If we sorting out the disease profile [3] of the country, we see, almost 19% of total OPD patients are suffering from skin diseases. As a non-specialized management some common drugs such as Fluconazole, NSAIDs, citriline, H<sub>2</sub> blockers, prednisolone are used country wide. This study was done to explore the use and

its magnitude and correlations of the commonest anti-fungal drug – Fluconazole [4]. The study period was done in Skin & VD OPD at Enam Medical College and Hospital (EMCH), Savar, Dhaka during July to December 2009. The researchers were intended to assess the prescriber, the diagnosis pattern and its rationality aiming to make some recommendations those can guide and ensure more precise and indicative use of Fluconazole [5].

#### Objectives:

1. To quantify the patient come after taking Fluconazole.
2. To distinguish the prescriber of Fluconazole by their status.
3. To correlate the use of Fluconazole with its indication.
4. To clarify the prescriber who suggested Fluconazole correctly.
5. To identify the irrational use of Fluconazole.

#### Methods

This prospective study was carried out in the department of Dermatology and Venereology, at Enam Medical College & Hospital (EMCH), Savar, Dhaka over a period of 6 months, July-December 2009. All patients (976) attending Skin & VD OPD at EMCH were considered with exclusion of those, who (319) came for direct consultation, such as medical related persons (doctors, nurses, medical students, medical staffs and their families); and rest (383), who's treatment had no relationship with Fluconazole (such as erectile dysfunction, anxiety neurosis, STI patients). The ultimate sample size was 274 (valid). Data were collected by structured questionnaire, face to face interview and checklists. Answers were tabulated and checked manually forming table and master-table and analyzed in PC using SPSS version 10.1.

#### Results and Findings

Demographic Variables		
Age	<20 Yrs. 81 (29.6%)	>20 Yrs. 193 (70.4%)
Sex	Male 159 (58%)	Female 115 (42%)
Marital Status	Married 148 (54%)	Unmarried 126 (46%)
Literacy	Illiterate 78 (28.4%)	Literate 196 (71.6%)
Location	Within Savar 111 (41%)	Outside Savar 163 (59%)
Distance	<5 Km. 34.1	>5 Km. 65-9%

**Table 1. The basic demographic information of the respondents by selected variables (N=274)**

Valid	Frequency	Percent	Cumulative percent
Registered doctor	30	10.9	10.9
Drug seller/ village doctor	138	50.3	61.2
Self	106	38.8	100
Total	274	100.0	

**Table 2. Distribution of patients by the category of preliminary-prescriber (N=274)**

	Frequency	Percent	Cumulative percent
Yes	119	43.4	43.4
No	155	56.6	100
Total	274	100	

**Table 3. History of taking Fluconazole prior to attend EMCH Skin-VD OPD (N=274)**

	Frequency	Percent	Cumulative percent
Yes	24	20.2	20.2
No	95	79.8	100
Total	119	100	

**Table 4. History of taking Fluconazole with or without indication (N=119)**

Table 1 shows age distribution of the respondents that majority of the cases (65.4%) was in the age group of 21-50 years. 29.6% of patients were shown in lesser age group (0-20 years). Sex distribution showed that majority patients were male(58%) and married (54%). Most of them were literate (71.6%) and attending EMCH from outside Saver or far away (59%) (>5 km; 65.9%). (Please note that, Saver municipality is a peri-urban area where most people use Rickshaw (tri-cycle) as their usual transport and 5 km is not very easy by cost or comfort).

Out of 274 patients, only 10.9% referred by registered doctor but maximum were sent by unregistered-chemist or village doctor (50.3%). A significant portion (38.8%) came to OPD directly (Tab.2).

Table 3 shows that about half of the patient came after taking Fluconazole (43.4%) but the rest came without taking Fluconazole (56.6%).

Table 4 shows that majority of the patient came after Fluconazole-taking without specific indication (79.8%) but a few respondents had indication of Fluconazole (20.2%).

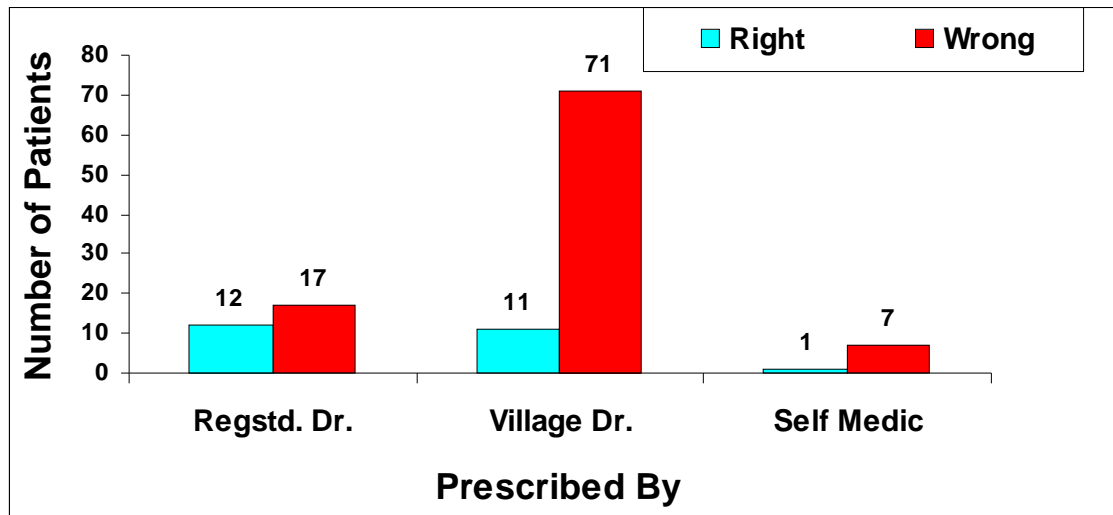


Figure 1. Distribution of the respondents having Fluconazole by correctness and Prescriber-type (N=119)

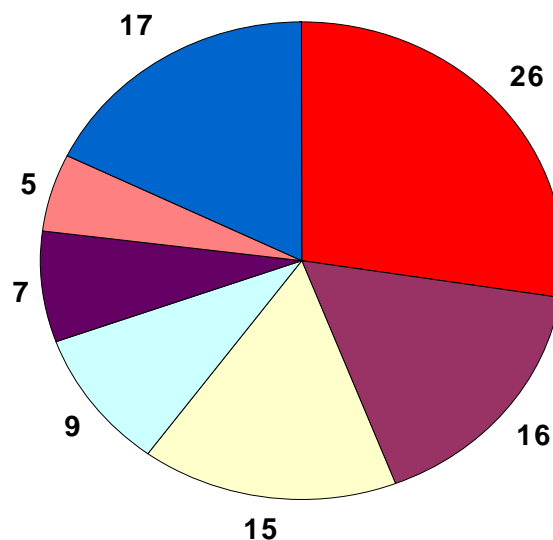


Figure 2. Distribution of the respondents having given Fluconazole, who were finally diagnosed different (N=95)

**Figure 1:** This Bar chart shows that out of the 119 patients (43.4%) who had taken Fluconazole before attending OPD, 29 of them (10.78%) were prescribed Fluconazole by registered doctors. However 17 of these prescriptions were not indicative. Whereas the prescription given by the unregistered-chemist or village doctors (quack) were 82 of whom 11 (9.2%) were correctly prescribed and 71 (59.66%) were wrong. Among the self medicated respondents only 1 (0.8%) had correctly prescribed but others were wrong (8; 6.72%).

**Figure 2:** This pie shown 95 (79.8%) respondents were given Fluconazole as a drug of choice which was done callously. Even psoriasis (21.8%), atopic dermatitis (13.4%), seborrheic dermatitis (12.6%) and the eczema (7.5%) were not diagnosed well beforehand, but treatment started with Fluconazole.

### Discussion

This study found that out of the total Fluconazole-intaker (119) only 24 (20.1%) were chosen rightly. In contrast, the study revealed that majority of the patients is treated by Fluconazole which was vague and had determined no clear indication. Indira et al [6] found in their study that out of 876 patients attending OPDs, about 72% were wrongly treated with Fluconazole, which is very close to our findings.

This study also observed that patients were prescribed Fluconazole wrongly even by the registered doctors (58.6% proportional). This happened due to: (1) the prescriber were not very careful about diagnosis (57%); (2) insufficient knowledge on skin-lesion (because, before July 2008, Skin VD was not included into the final professional MBBS examination) [7] (68.3%); (3) any skin manifestation in the tropical zones may be misdiagnosed as fungal disease [8]. (76%). In contrast, Umit N Gundogmus et al [9] from Kocaceli University Medical School, Turkey found causes behind the irrational use of Fluconazole: (1) Careless (53.4%); (2) Less knowledge (20%); (3) Random use (51.6%). But, Indira et al found irrational use of Fluconazole in a different ways 66% in OPD and 41% in IPD among 701 patients.

### REFERENCES:

1. Bangladesh Bureau of Statistics (BBS) Pocketbook, 2008.
2. Park K, Textbook of Preventive Medicine (2008, 19<sup>th</sup> Edition), India.
3. Morshed M, Anowar I, Sarowar KB et al. Epidemiological Surveillance Report:1999;269-281. Yearly Health Situation Report, 2000, IEDCR, Mohakhali, Dhaka.
4. Bell-Syer SEM, Hart R, Crawford F, Torgerson DJ, Tyrrell W, Russell I: Oral treatment for fungal infections of the Skin of the Foot. Cochrane Database System Rev 2002;
5. Dastghalib L, Azizzadeh M, Jafari P: Therapeutic options for the treatment of Tinea Capitis: Griseofulvin versus fluconazole. J Dermatol Treat 2005; 16: 43.

The very significant observation of the study with those patients- who were treated by Fluconazole thinking the skin lesion as a symptoms of fungal infections, whereas the final diagnosis were too far to assumption, such as- (1) Psoriasis (26, 21.8%); (2) Atopic dermatitis (16, 13.4%); (3) Seborrheic dermatitis (15, 12.6%) and so on. Sommer et al [10], found that the chances of fixed drug eruption, liver toxicity, respiratory distress etc. might happen due to irrational use of Fluconazole, steroid and NSAIDs in 9182 patients in central and northern India in early years of this millennium.

### Recommendations

This small scale study revealed that Fluconazole is still prescribed for most of the skin lesion, irrespective of indications. About 80% cases of skin-VD were wrongly treated with Fluconazole. Out of this, registered physicians did wrong 58.6% (proportional), which is very alarming. In contrast to above findings, the study shown that 68.9% patients were prescribed or dispensed Fluconazole by the drug seller or village-doctors (quack). The proportion of this wrong prescription was about 87% - that might be destructive to public health in every consideration.

Basis on the findings, the researchers put forward following recommendations to higher authorities, related professionals and the general practitioners:

1. Common anti-fungal drugs, like Fluconazole, should be chosen after careful analysis or confirmatory diagnosis.
2. All Skin lesions should not be treated with Fluconazole by quick assessment in OPD/clinics considering as simple fungal case.
3. Registered general practitioners should have to undergo short courses or refreshers trainings on Skin-VD for upgrading and updating knowledge and skill.
4. The patients complaining no-prognosis with Fluconazole- must refer to Skin-VD specialties for ethical management.
5. Large scale study is strongly recommended in this field to explore more knots and dots.

6. Indira et al, Fluconazole induced fixed drug eruption: lesion for dermatologist, Cont Med Educ. 2000; 66: 1-5
7. Course Curriculum for undergraduate MBBS students, Dhaka University and BMDC, 2006.
8. Larsen GK, Haedersdal M, Svejgaard EL: The Prevalence of onychomycosis in patients with psoriasis and other Skin Diseases; Acta Dermatol Venerol 2003; 83: 206.
9. Gundomus UN, Erdogan MS, Sehiralti M, Kurtas O: A descriptive study of medical malpractice cases in turkey, Ann Saudi Med. 2005, 25: 404-408.
10. Sommer S, Sheehan-Dare RA, Goodfield MJD, Evans EGV: Prediction of outcome in the treatment of onychomycosis. Clin Exp Dermatol 2003;28:425-428.