

ANALYSIS OF MARKET PERFORMANCE OF VARIOUS BRANDS OF OFLOXACIN IN ALMORA REGION

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ABSTRACT

Ofloxacin is a newly licensed fluoroquinolone with an antimicrobial spectrum similar to ciprofloxacin. Compared with ciprofloxacin, the MIC₉₀ values for ofloxacin are lower for *S aureus*, *C trachomatis*, and *Ureaplasma urealyticum*, but somewhat higher against gram-negative bacteria (especially *P aeruginosa*). Ofloxacin has favorable pharmacokinetics with almost 100% bioavailability; peak serum concentrations obtained one to two hours following oral dosing are higher than those achieved with ciprofloxacin. Ofloxacin should not be used alone to treat anaerobic or mixed aerobic/anaerobic infections, and a penicillin or cephalosporin is preferred for known or suspected streptococcal or pneumococcal infection. It also is effective therapy for nongonococcal urethritis, although the tetracyclines are much less expensive. Ofloxacin has a good safety profile, but, as with other fluoroquinolones, it should not be used in children or in pregnant or nursing women. Further comparative trials may broaden the range of infections that can be treated with ofloxacin. The development of a Ofloxacin formulation requires expertise during each manufacturing stage. This study shows the analysis and Market performance of various different brands of Ofloxacin tablets available in the local market.

KEYWORDS: Ofloxacin, Antibiotic, Marketing, Survey.

I. INTRODUCTION

FLUOROQUINOLONES are antibiotics that are commonly used to treat a variety of illnesses such as respiratory and urinary tract infections. These medicines include ciprofloxacin (Cipro), gemifloxacin (Factive), levofloxacin (Levaquin), moxifloxacin (Avelox), norfloxacin (Noroxin), and ofloxacin (Floxin). [1-3]

The fluoroquinolones are broad-spectrum antibiotics with particular activity against gram-negative organisms, especially *Pseudomonas aeruginosa*. These agents are well absorbed when given orally. Because tissue and fluid concentrations often exceed the serum drug concentration, these antibiotics are particularly useful for certain infections, such as pneumonia. Fluoroquinolones are usually well tolerated, with few side effects.[4-6]

1.1 Mechanism of Action:

Fluoroquinolones inhibit bacterial replication by blocking their DNA replication pathway. DNA is the core genetic material of the cells, and is responsible for proper functioning of the cell. During protein synthesis and DNA replication, the double-stranded DNA needs to unwind into a single stranded structure, which allows for complementary base pairing to occur and synthesis of mRNA to proceed. This unwinding of DNA in the bacteria is done by enzymes in the bacteria called DNA gyrase or DNA topoisomerase. DNA gyrase is a topoisomerase II type enzyme that unwinds the DNA by introducing negative supercoiling. fluoroquinolones inhibit this enzyme by binding the enzyme due to which the bacteria is unable to replicate or even synthesize proteins. [7-9]

Ofloxacin is an antibiotic useful for the treatment of a number of bacterial infections. When taken by mouth or injection into a vein, these include pneumonia, cellulitis, urinary tract infections, prostatitis, plague, and certain types of infectious diarrhea. Other uses, along with other medications, include treating multidrug resistant tuberculosis. An eye drop may be used for a superficial bacterial infection of the eye and an ear drop may be used for otitis media when a hole in the ear drum is present. When taken by mouth, common side effects include vomiting, diarrhea, headache, and rash. Other serious side effect include tendon rupture, numbness due to nerve damage, seizures, and psychosis. Use in pregnancy is typically not

recommended. Ofloxacin is in the fluoroquinolone family of medications. It works by interfering with the bacterium's DNA. [10,11]

Ofloxacin was patented in 1980 and approved for medical use in 1985. It is on the World Health Organization's List of Essential Medicines, the safest and most effective medicines needed in a health system. Ofloxacin is available as a generic medication. The wholesale cost in the developing world is about US\$3.27 per month. In the United States, a course of treatment costs about \$50–100. In 2016, it was the 299th-most prescribed medication in the United States with more than a million prescriptions. [12,13]

1.2 Medical Uses:

Ofloxacin is used in the treatment of bacterial infections such as:

- Acute bacterial exacerbations of COPD
- Community-acquired pneumonia
- Uncomplicated skin and skin structure infections
- Nongonococcal urethritis and cervicitis
- Epididymitis
- Mixed Infections of the urethra and cervix
- Acute pelvic inflammatory disease
- Uncomplicated cystitis
- Complicated urinary tract infections
- Prostatitis
- Acute, uncomplicated urethral and cervical gonorrhea

1.3 Top manufacturers listed in the ofloxacin market report are:

- Cadila Pharmaceuticals
- Bestochem
- Apotex
- Teva
- Novartis
- Allergan
- Daiichi Sankyo
- Janssen
- Almatica Pharma

II. METHODOLOGY

2.1 Objective

- To evaluate the market performance of different OFLOXACIN brands available in the territories of Dehradun through market survey.
- To compile the different brands of OFLOXACIN marketed in dehradun region.
- To find the availability and sales figure of different brands through market survey on retail chemist shops.
- To find out the regional variability in the market performance among different top brands.
- Gathering and collation of the data of different OFLOXACIN brands.

- Statistical sales analysis of OFLOXACIN TAB. and collect data of different areas of Dehradun city
- Interpretation of the statistical analysis.
- Analysis of the research objective.

Study Design:

This was an open, survey based study which aim to evaluate the status of Ofloxacin among people, doctors and chemists. And to generate awareness about use of Ofloxacin.

A well structured questionnaire was prepared. The questionnaire was developed from detailed information. A questionnaire was issued to people, doctors and chemists.

The information generated was recorded in questionnaire to facilitate recording and minimizing interviewing time.

Study Sites:

The study was carried out on subjects of different parts of Almora.

Collection of Data:

The subjects were asked to fill the questionnaire or questions were directly asked to them. The survey was done in different parts of Almora like Dharanaula, Lala bazar, Mall road, Lower mall road, Base hospital, Cheenakhan and Milan chok.

2.2 Market Survey:

- **Market Survey Detail of Chemist Shop in Selected Areas of Almora:**

Table-1: Marketing Report

Area Dharanaula		
S. No	Chemist Owner Name	Medical Store Name
1	Naveen Jeena	Shiv Shakti Medical Store
2	C.S Mer	Rohit Medicose
3	Govind Singh	Saraswati Medical Store

Table-2: Marketing Report

Area Lala Bazar Almora		
Sr. No	Chemist Owner Name	Medical Store Name
1	G.S Mishra	Almora Medical Hall
2	Kishan lal	Kishanlal Medicose
3	Malvinder singh	Singh Brothers medicose.

Table no. 3 Marketing Report

Area Mall Road		
Sr. No	Chemist Name	Medical Store Name
1	Arvind Rawat	Sajwan Medicose
2	Deepak Negi	Badri Kedar Medical
3	Sandeep Singh	Medi Point

2.3 Sales Figures of Different Brands of Ofloxacin (Antibiotic) in Almora.

- Sales figure of ofloxacin tablet in almora per week :

Table-4: Sales figure of ofloxacin tablet per week in area Dharanaula, Almora

Brand Name	Company	Chemist Shop	No. Of Strips Sale/Week	Total Strips Sale/Week
OFLOX200 mg	CIPLA	1	11	33
		2	9	
		3	13	
ZENFLOX200	MANKIND	1	6	15
		2	4	
		3	5	
OLFI-200	IPCA	1	4	6
		2	2	
		3	0	
OFLACIN 200MG	MICRO LABS	1	7	18
		2	4	
		3	7	

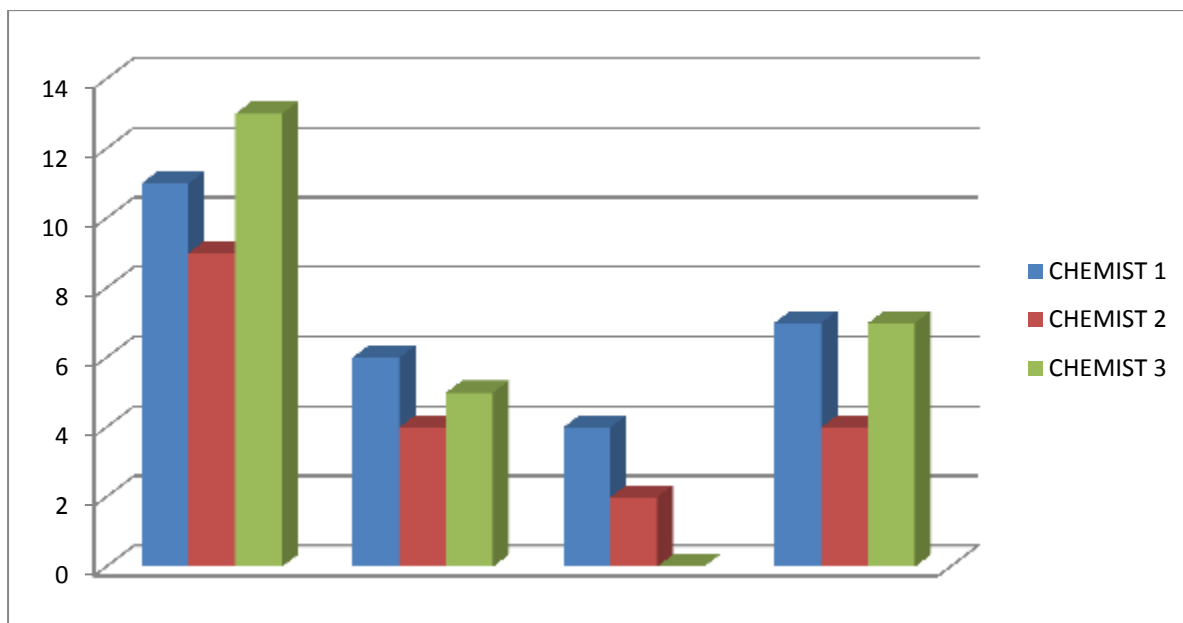


Fig-1: Sales figure of Ofloxacin tablet in Almora per week area Dharanaula.

- SALE FIGURE OF OFLOXACIN TABLET IN ALMORA PER WEEK:

Table-5: Sales figure of ofloxacin tablet per week in area Lala Bazaar, Almora

Brand Name	Company	Chemist Shop	No. Of Strips Sale/Week	Total Strips Sale/Week
OFLOX 200 MG	CIPLA	1	20	41
		2	16	
		3	15	
ZENFLOX 200	MANKIND	1	15	39
		2	15	
		3	9	
OLFI-200	IPCA	1	8	16
		2	5	
		3	3	

OFLACIN 200	MICROLABS	1	10	23
		2	4	
		3	9	

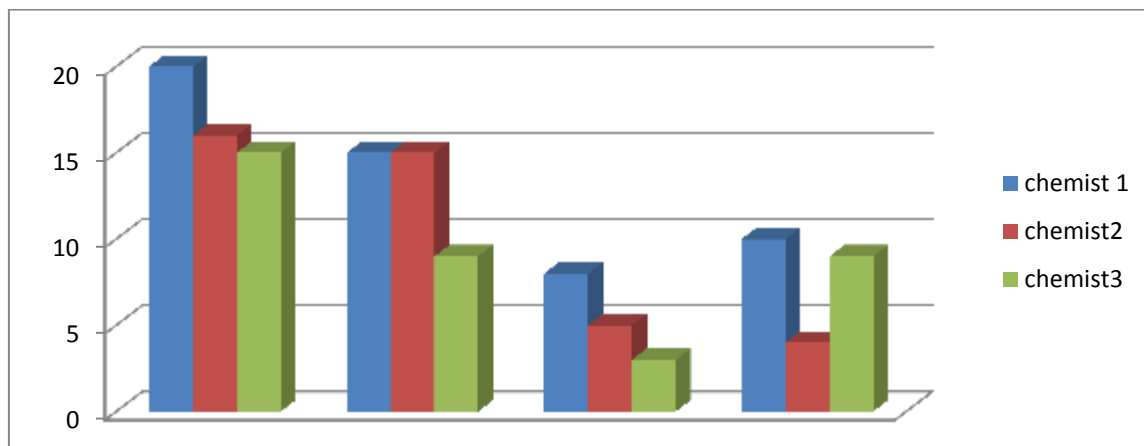


Fig-2: Sales figure of Ofloxacin tablet in Lala bazar per week.

- SALE FIGURE OF OFLOXACIN TABLET IN ALMORA PER WEEK :

Table-6: Sales figure of ofloxacin tablet per week in area Mall Road, Almora

Brand Name	Company	Chemist Shop	No. Of Strips Sale/Week	Total Strips Sale/Week
OFLOX200MG	CIPLA	1	14	29
		2	8	
		3	7	
ZENFLOX-200	MANKIND	1	17	28
		2	6	
		3	5	
OLFI-200	IPECA	1	4	9
		2	0	
		3	5	

OFLACIN 200	MICROLABS	1	9	22
		2	10	
		3	3	

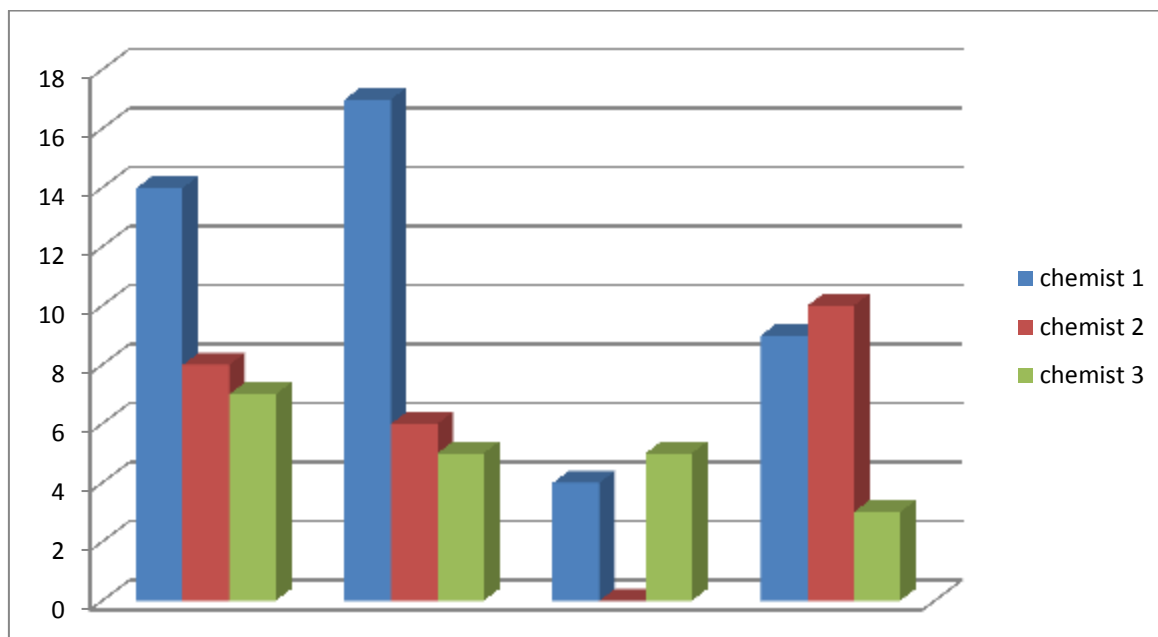


Fig-3: Sales figure of Ofloxacin tablet in Mall road per week.

III. CONCLUSION

The market survey of an antibiotic i.e ofloxacin was performed which gives a brief knowledge about the different brands of ofloxacin in market also prescription habits of different physicians.

The survey was performed in three steps:

- 1) Sales of ofloxacin tablet of different brands, and the information was gathered from various chemist shops at various areas of city.
- 2) Survey is performed on random patients in hospital and clinic.
- 3) Survey is performed with respect to doctor.

A questionnaire is prepared and views of various chemist, patients and doctor were recorded regarding to the antibiotic i.e ofloxacin. The overall market survey on ofloxacin will be helpful for understanding the prescription patterns, patient orientation and marketing trends in the different rfeighions of Almora which can be a perfect tool for marketing strategies and forecast.

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