

Summer Training at



**Abbott Healthcare Pvt Ltd
(April 25-June 25, 2012)**

Rajasthan Government's Free Drug Distribution Plan

By

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Under the guidance of

**Dr. Arindam Das
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**Post Graduate Diploma in Pharmaceutical Management
2011-2013**



**Institute of Health Management Research,
Jaipur
2012**

RAJASTHAN GOVERNMENT'S FREE DRUG DISTRIBUTION PLAN

**A REPORT SUBMITTED
TO**



ABBOTT HEALTHCARE PVT LTD.

UNDER THE GUIDIANCE OF:

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Certificate

This is to certify that Mr. **Naveen Koushal** from Institute of Health Management Research, Jaipur has undergone Summer Training at **ABBOTT HEALTHCARE PVT. LTD., Mumbai**, from 25th April, 2012 to 25th June, 2012.

The candidate himself carried out the project. His approach to the study has been sincere, scientific and analytical. This summer training is partial fulfillment of the course requirement and is recommended for the award of Post Graduate Diploma in Pharmaceutical Management.

I wish him success in all his future endeavors.



Dr. P.R. Sodani
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**INSTITUTE OF HEALTH
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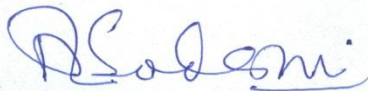
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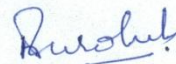
This is to certify that Mr. **Natwar Singh Rajawat** from Institute of Health Management Research, Jaipur has undergone Summer Training at ABBOTT HEALTHCARE PVT. LTD., MUMBAI from 25th April, 2012 to 25th June, 2012.

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We tried our level best in making this project useful and hope that it will be up to the expectations of everyone mentioned.

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LIST OF ABBREVIATIONS:

CAGR	COMPOUNDED ANNUAL GROWTH RATE
CHC	COMMUNITY HEALTH CENTRE
DCGI	DRUG CONTROLLER GENERAL OF INDIA
DDC	DRUG DISTRIBUTION COUNTER
DH	DISTRICT HOSPITAL
EDL	ESSENTIAL DRUG LIST
FDC	FIXED DOSE COMBINATION
FDDS	FREE DRUG DISTRIBUTION SCHEME
GDP	GROSS DOMESTIC PRODUCT
IPD	INSIDE PATIENT DEPARTMENT
MAT	MOVING ANNUAL TOTAL
OPD	OUTSIDE PATIENT DEPARTMENT
PHC	PRIMARY HEALTH CENTRE
RMSC	RAJASTHAN MEDICAL SERVICES CORPORATIONS
TNMSC	TAMIL NADU MEDICAL SERVICES CORPORATIONS
WHO	WORLD HEALTH ORGANISATION

EXECUTIVE SUMMARY

Rajasthan Government free drug distribution scheme is all about providing all the 400 Essential medicines to the patient free of cost. The scheme was launched on 2nd October 2011. The main objectives of this study were to determine the level of implementation of this scheme across the state of Rajasthan and to assess the impact of this scheme on the Rajasthan Pharmaceutical branded generic market. The survey was conducted across seven major districts of Rajasthan (Jaipur, Bikaner, Ajmer, Kota, Udaipur, Jodhpur, Bharatpur) to examine the prescription pattern of Government doctors and to determine the availability of purchased drugs in the government established Drug Distribution Counter (DDC). A total of 160 doctors, 31 Pharmacist were surveyed all across the state. Questionnaire as a tool and face to face interview as a technique were adopted to survey the Doctors and Pharmacist. Analysis of last five years sales report of ORG/IMS data was done to assess the impact of this scheme on Rajasthan Pharmaceutical market. The study has shown the following results:

- As per the Doctors view quality, safety and efficacy of government purchased generic drug is same as that of branded drugs.
- 1 out of 4 doctors prescribed branded medicines but not more than one-two branded medicine in a single prescription. Also the branded drug prescriptions were found to be more in medical colleges and district hospitals as compared to other healthcare facilities.
- The unavailability of drugs at medical college (25%) and district hospital (21%) was found to be high as compared to CHCs (14%) and PHCs (3%).
- Thirty two percent Doctors also prescribe branded drugs for the drugs not covered under the scheme.
- Fifty percent of the doctors responded that coverage/reach of healthcare facility had improved after the implementation of this scheme.
- Out of total 311 drugs analyzed from the IMS data 27 percent drugs have shown decline in their growth rate which were earlier having a positive CAGR (2008-2011). These also included the drugs which are prescribed by maximum no. of doctors.

The government's free drug scheme has affected the Rajasthan Pharmaceutical market. But the actual impact will be seen when the proper availability is ensured at all level of healthcare facility.

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INTRODUCTION

Essential medicines are those that satisfy the priority health care needs of the population. These medicines are intended to be available within the context of functioning health systems at all times in adequate amounts, in the appropriate dosage forms, with assured quality and adequate information, and at a price that can be afforded by the patients [1]. To cater the need of patient with these essential drugs, Rajasthan government rolled out the “Mukhyamantri Nishulk Dawa Vitran Yojna” (Free Drug Distribution Scheme) all across the state. The main aim of this scheme is to provide essential drug (starting with 400 drugs) at free of cost to the every section of society at all levels of healthcare facilities starting from Medical college to District hospital, CHC, PHC and Sub centres. For this, the Government has set up about 15000 drug distribution counters across all 32 districts of Rajasthan.. Rajasthan Government implemented this scheme on 2nd October 2011, with a budgetary allocation of 200 Crores and now in 2012 this has been increased upto 300 Crores [2]. The Rajasthan Government claims that over 4.4 Crores patients have benefited from this free generic medicines scheme so far since its launch last year [3]. All the drugs provided by the Rajasthan Government under this scheme are generic medicines and do not include any branded medicines.

The concept of “free drug supply to the patient” first came in India way back in 1997 by the Tamil Nadu Government, where Tamil Nadu medical services corporation (TNMSC), prepared a list of essential medicines (under generic names) as per WHO model of essential drug list. The scheme was aimed at providing free generic medicines to the patients, both OPD and IPD. The total Budget outlay for this scheme in 2011 was Rs. 210 Crores [4].

Out of 100 patients needing health care in India, currently only 80 patient use public or private facilities; 20 are unreached. Amongst those who access health care, current utilization of public health services is on an average around 20-25 percent. If this scheme is implemented all across Country than, based on the Tamil Nadu experience, it is hoped that it will increase to 40 per cent when free medicines and quality care will be provided in the Public hospitals (Srinivasan S, 2011).

A recent study of Tamil Nadu and Bihar by Selvaraj et al. (2010) shows that the mean availability of the basket of EDL drugs for Bihar on the day of the survey was about 43% as

against roughly 88% for Tamil Nadu.[9] As far as drug stock-outs were concerned, Bihar's health facilities registered an average of 42% stock-outs, with a mean duration of 105 days, in the previous 6 months of the survey period. On the other hand, the proportion of drug stock-outs for Tamil Nadu stands at around 17%, with an average duration of about 50 days.

Also the percentage of healthcare budget spent on drug procurement by states in 2010-2011 indicates that about 10-12 percent of the health spending in the states of Tamil Nadu and Kerala goes towards procuring drugs as against the 2-3% spent on drugs by states like Jharkhand, Punjab and Rajasthan.[6] And also the Health care costs are the second most frequent reason for rural indebtedness in India as the major component of health care costs is medicines[7].

The high acceptability and success of this scheme caused other states to start this kind of services in their state too. Today about 15 major states of India (Andhra Pradesh, Assam , Bihar, Delhi, Chhattisgarh, Gujarat, Haryana, Jammu & Kashmir, Kerala, Orissa, Madhya Pradesh) have launched such type of scheme to provide Free drugs to every section of society , but the essential drug list of different states varies in the no. of drugs included (see table 1).The scheme as per the government of India is going to be centralised in the 12th five year plan.

Table 1:

ESSENTIAL DRUG LIST OF DIFFERENT STATES

S.NO	NAME OF STATE	NO. OF DRUGS IN ESSENTIAL DRUG LIST	STARTING YEAR
1	Andhra Pradesh	162	-
2	Assam	270	1997-98
3	Bihar	280	2006
4	Delhi	250	1994
5	Chhattisgarh	374	-

6	Gujarat	423	-
7	Haryana	300	2009
8	Jammu and Kashmir	300	-
9	Karnataka	246	1997-98
10	Kerala	528	2008
11	Madhya Pradesh	203	
12	Orissa	100	1999
13	Tamil Nadu	268	1997

Source: Rajasthan Medical Services Corporation.

ALL INDIA “FREE MEDICINES TO ALL” POLICY

The 12th Five Year Plan of India proposes the launching of a centrally aided scheme to provide for ‘free medicines for all’ in public health facilities. The total cost of the Scheme during the plan period would be Rs. 28675 Cr for running costs and an additional Rs. 1293 Cr as one-time capital costs[3]. Out of the total cost 75 percent will be borne by the central Government and the remaining 25 percent cost will be borne by the states. Public doctors will be able to spend 5 percent of the budget, on drugs outside of the government's list, on branded drugs or on medicines that are not on the list. Beyond that, they can be punished, said the health ministry official [8]. It seems that the government is serious about the implementation of this scheme but scepticism remains whether it'll be actually implemented, as the government had launched a similar program under the Jan Aushadhi scheme under which it had planned to launch 3000 generic drug stores by 2012 but only 300 of them were set up. Studies in the past few years have clearly demonstrated that price control by the governments has shown its effectiveness. Sengupta et al. (2008) reported a nearly 40% increase in all drug prices between the period of 1996 and 2006.¹⁸ During the same period, the price of controlled drugs rose only by 0.02% while the price of EDL drugs (Essential Drug List) rose by 15%. In contrast, the price of drugs that were neither under price control nor under the EDL grew by 137%. And also according to estimates available from DCGI

(2007), about 46 banned Fixed Dose Combination (FDC) drugs continue to be marketed despite the ban.

Pharmaceutical industry is most concerned about this scheme, as due to prescription of free generic drugs by Government Doctors, branded generic drug market may get affected. This decision of the government could change the lives of hundreds of millions, but a ban on branded drugs would surely impact the pharmaceutical industry to a large extent. Under the plan, doctors will be limited to a generics-only drug list and face punishment for prescribing branded medicines, this is major disadvantage for pharmaceutical giants in one of the world's fastest-growing drug markets. About Rs. 62000 Cr of drugs are sold each year in India, or 48200 billion at wholesale. Drugs covered under the new policy account for about 60 percent of existing sales, or Rs 29,000 Crores rupees at wholesale cost.

TABLE 2:

SCENARIO OF INDIAN PHARMACEUTICAL MARKET UNDER GOVERNMENT CONTROL GENERIC DRUG MARKET

Overall Drug Consumption	Present Market Pattern (Non-EDL+EDL) Current Scenario (Rs. Crores)	Retail Market Price Converted to Procurement Price (EDL) Scenario I (Rs. Crores)	EDL Substituted for Non-EDL in Open Market Scenario 2 (Rs. Crores)
Essential Drugs	20000	4000 ~ 5000	4000~5000
Non-Essential Medicines	36000	36000	8000 ~ 15000
Govt Procured Drugs	6000	6000	6000
Total Market	62000	46000 ~ 47000	18000~26000

The current scenario in above table shows that about Rs.62000 worth drugs are sold in the Indian domestic Market which includes both essential drugs (EDL) and Non-essential drugs (Non-EDL)

Scenario one in the **table 2** shows that if essential drugs that are sold in the retail market are bought by the government at procurement prices (for instance, TNMSC prices), than it offers a total savings of Rs. 15,000 to Rs. 16,000crores to the Nation. However, this is based on the assumption that all essential drugs would be bought by the government for its facilities.In scenario two, while the cost savings through bulk procurement prices are factored into estimations, an attempt is also made to substitute essential medicines for non-essential drugs through Standard Treatment Guidelines (STG). The cost savings here are likely to be enormous, to the tune of Rs. 36,000 to Rs. 44,000 crores. On the whole, it can be said that if central Government in itsAll India “Free Medicines to all” Policy plans to provide all essential medicines for free of cost at all public healthcare facilities than it will be saving about Rs. 15000 to Rs. 16000.And also if the Non-EDL drugs are substituted with the EDL it may save additional Rs. 21000 crores to Rs. 28000 crores. And by including the both total saving of Rs 36000 crores to Rs. 44000 crores can be obtained, which amounts to about 0.5 to 0.6 % of the GDP.

The main objective to conduct this study was to check the level of implementation of this scheme all across the state of Rajasthan and how the Rajasthan pharmaceutical market is affected by this scheme.

SIGNIFICANCE OF THE STUDY

The Indian pharmaceutical industry is one of the fastest growing industries in the world with a growth rate of 15%-16% annually and is mainly dependent upon the branded generic market. The implementation of “free drug distribution scheme” in the state of Rajasthan has caused a decline in the sales of the Rajasthan pharmaceutical market therefore Pharmaceutical companies are concerned that how far the scheme has affected their growth rate.

The study is being conducted to know till what extent government has been successful in implementing “free drug distribution scheme” and how are the various stakeholders affecting the implementation of this scheme. This study is designed to help pharmaceutical companies so that they can make their strategy as per the new market scenario and utilize their resources accordingly. The study can also guide the companies to bring new innovative products as well as to focus on those products which are not affected by such kind of scheme.

OBJECTIVES OF THE STUDY

1. To check the level of implementation of “Rajasthan Government Free Drug Distribution scheme”.
2. To assess the impact of “Rajasthan Government Free Drug Distribution scheme” on the sales of Rajasthan pharmaceutical market.

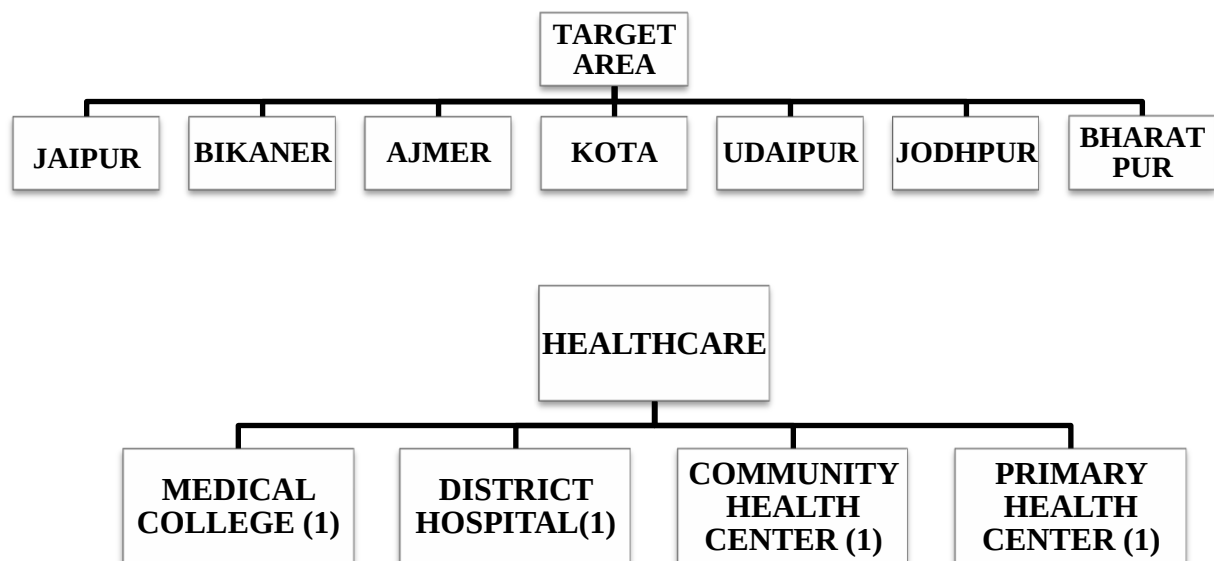
RESEARCH QUESTIONS

The study is conducted to know:

1. The benefits that the patients are getting from this scheme.
2. Perception of doctors for generic drug's quality, safety and efficacy.
3. Proportion of branded and generic prescriptions by the doctors.
4. Availability of generic drugs at the drug distribution counter.
5. Impact of this scheme on the sales of Rajasthan pharmaceutical market.

METHODOLOGY

- **RESEARCH DESIGN:** Exploratory research design
- **TARGET AREA:** The Rajasthan state was divided into 7 regions. From each region, District Headquarter was selected for the study. From each District Headquarter one medical college, one district hospital, one CHC and one PHC were selected as per convenience.



- **TARGET RESPONDENTS:** Government Doctors and Pharmacists.
- **SAMPLE DESIGN & TECHNIQUE:** Purposive sampling technique was adopted to interview all the respondents.
- **SAMPLE SIZE:** 160 Doctors and 31 Pharmacists.
- **TOOLS AND TECHNIQUES:**
 1. **Tool:** Semi-Structured Questionnaire.
 2. **Technique:** Interview.
- **SECONDARY DATA-ORG/IMS** Rajasthan pharmaceutical market sales data were analyzed to check the impact of scheme on their sales

ANALYSIS & INTERPRETATION

A total of 160 Government doctors were interviewed across 7 regions of Rajasthan. Their numbers with respect to their regions and type of healthcare facility are listed below.

TABLE 3:NO. OF DOCTORS INTERVIEWED IN EACH HEALTHCARE FACILITY.

REGION VISITED	MED. COLLEGE	DISTRICT HOSP.	CHCs	PHCs	TOTAL
JAIPUR	18	7	3	2	30
BIKANER	13	3	7	3	26
AJMER	9	3	6	2	20
KOTA	16	3	2	1	22
UDAIPUR	6	7	2	2	17
JODHPUR	14	7	3	1	25
BHARATPUR	0	13	5	2	20
TOTAL	76	43	28	13	160

1. KNOWLEDGE ABOUT GENERIC DRUGS

It is observed from the analysis that all the doctors were aware about generic drugs.

2. PERCEPTION OF DOCTORS REGARDING QUALITY, SAFETY AND EFFICACY OF GENERIC DRUGS AS COMPARED TO BRANDED DRUGS

On 5 point likert scale, the quality, safety and efficacy of generic drugs were rated as 1= Very Poor to 5= Very Good. The average value of quality, safety and efficacy of generic drugs has come out to be 3.05, 3.27, and 3.05 respectively. This figure lay more towards neutral side, therefore, as per doctors quality, safety and efficacy of generic drugs is neither poor nor good. We can say from the analysis that the views of the interviewed doctors were neutral on generic drugs.

CHART 1: (N = 157)

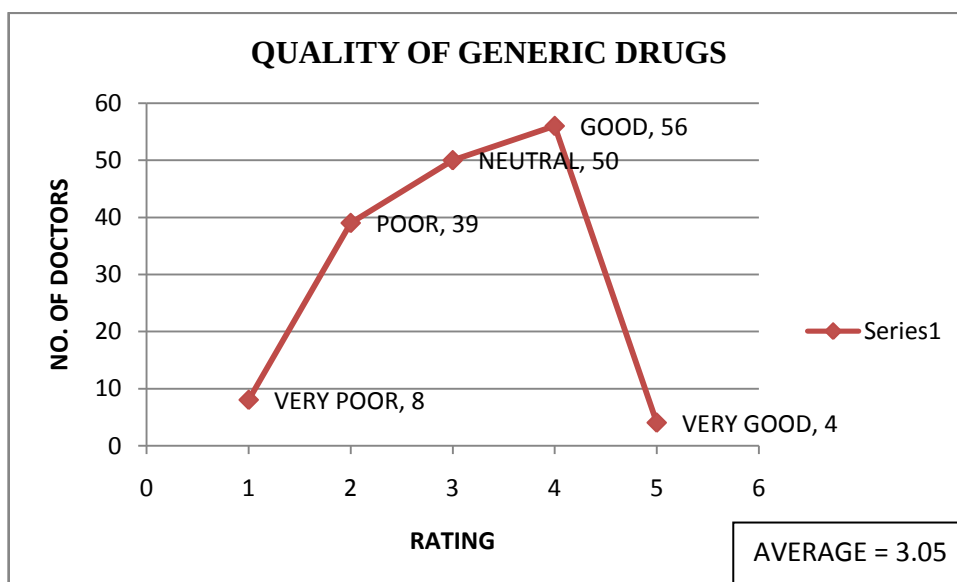


CHART 2: (N=157)

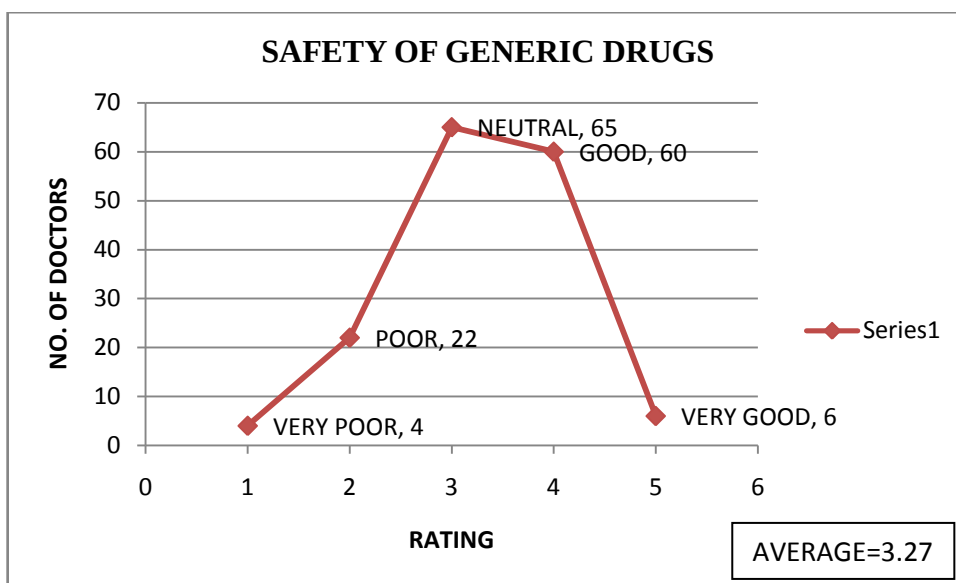
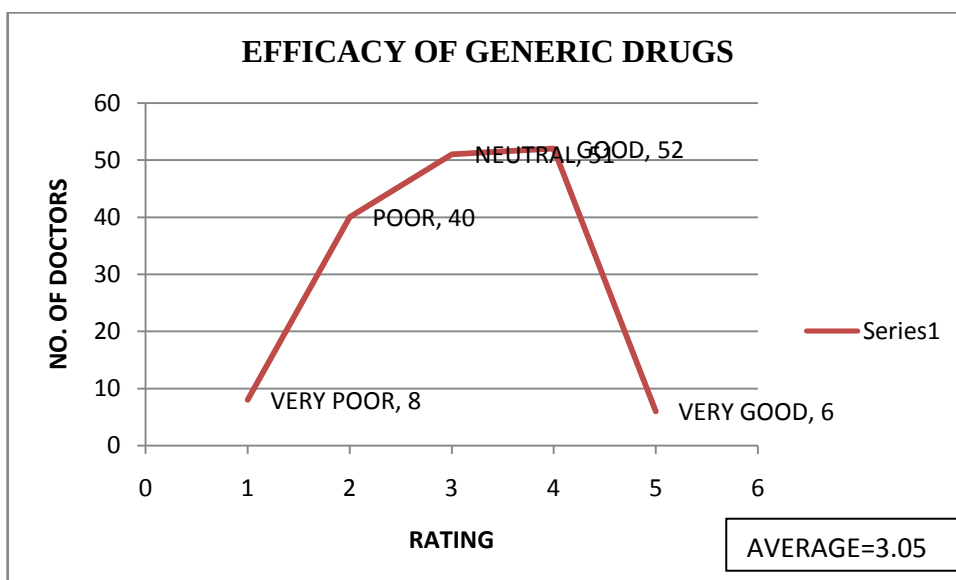


CHART 3: (N=157)



3. OTHER PARAMETERS ON WHICH GOVERNMENT PURCHASED GENERIC DRUGS DIFFER FROM BRANDED DRUGS

The below table shows that a little more than one fourth of interviewed doctors (27.50%) did not make any difference between generic and branded drugs but those who made, said that generic drug purchased by the Rajasthan Government were less available in combination forms (13.30%), they were not reliable (6.8%) and effective (6.25%) as branded ones. Also the availability (10.6%) and cold chain maintenance (2.5%) of drugs in the stores were not adequate according to them.

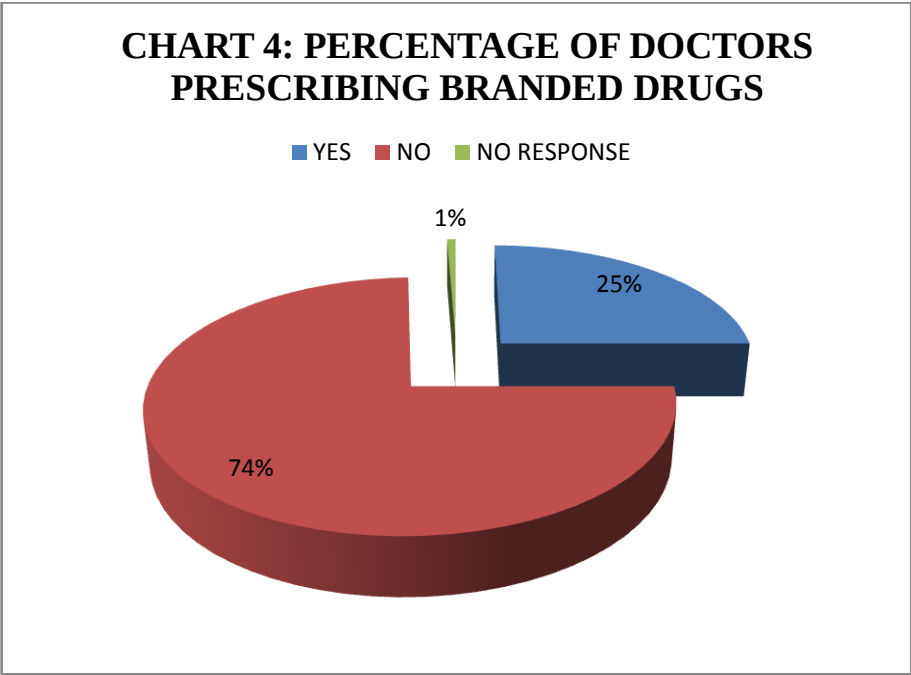
TABLE: 4

OTHER PARAMETER THAT DIFFER FREE GENERIC DRUGS TO BRANDED DRUGS

OTHER PARAMETERS FOR GENERIC DRUGS	NO OF RESPONDENTS	PERCENTAGE
Bioavailability Is Less	9	5.63
Onset Of Action Is Slow	2	1.25
Cost Is Less	26	16.25
Combinations Not Available	21	13.13
Packaging Is Not Proper	4	2.50
Less Reliable	11	6.88
Not Effective	10	6.25
More Side Effects	4	2.50
Availability Not Adequate	17	10.63
Lack Of Cold Chain Maintenance	4	2.50
Few Formulations	7	4.38
No FDA Approval	2	1.25
No Difference	44	27.50

4. PRESCRIPTION OF BRANDED DRUGS BY THE DOCTORS

When the doctors were asked whether they prescribe branded medicines to the patients, it was seen that one out of every four doctors prescribed branded drugs to the patients. See chart no 4.



4.1NO. OF BRANDED DRUGS PRESCRIBED BY THE DOCTORS OUT OF 5 DRUGS IN A PRESCRIPTION

The below table shows that Doctors Prescribed not more than 1 or 2 branded drugs out of the total drugs they prescribe in a prescription.

TABLE 5.

NO OF BRANDED DRUGS PRESCRIBED OUT OF 5 DRUGS IN A PRESCRIPTION

NO OF BRANDED DRUGS OUT OF 5	NO OF RESPONDENTS	PERCENTAGE
0	117	73.1
1	11	6.9
2	5	3.1
3	1	0.6
1-2	2	1.2
3-4	1	0.6
NO RESPONSE*	23	14.4
TOTAL	160	100

*SOME OF THE DOCTORS REPLIED "YES" THAT THEY PRESCRIBE BRANDED DRUGS BUT DENIED TO QUANTIFY IT.

4.2 NO. OF DOCTORS (HEALTHCARE WISE) PRESCRIBING BRANDED MEDICINES

Percentage of doctors (Table 7) prescribing branded drug are more at Medical colleges and CHCs as compared to district hospitals and PHCs

TABLE 6:

NO. OF DOCTORS (HEALTHCARE WISE) PRESCRIBING BRANDED MEDICINES

TYPE OF HOSPITAL	YES	PERCENTAGE	TOTAL
MED. COLLEGE	25	32.89	76
DISTRICT HOSP.	7	16.28	43
CHCs	6	21.43	28
PHCs	2	16.67	12
TOTAL	40	25.16	159
MISSING/NO RESPONSE			1

4.3 NO OF DOCTORS PRESCRIBING BRANDED DRUGS (REGION WISE)

From the below table it can be seen that no of prescription containing branded was highest in Jodhpur (40 %) and least in Udaipur (11.76%) while all other regions seems to had average branded prescription.

TABLE 7: NO OF DOCTORS PRESCRIBING BRANDED DRUGS (REGION WISE)

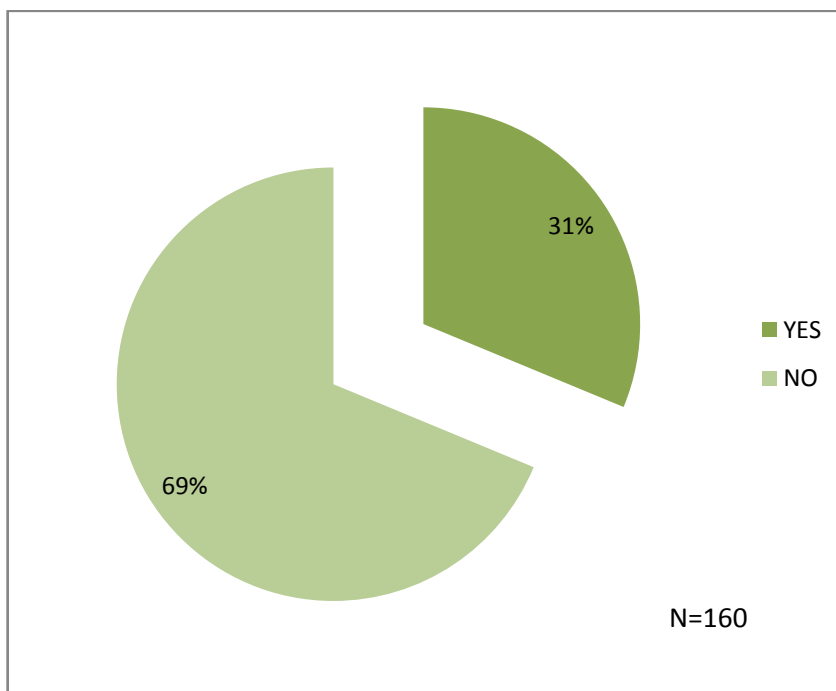
AREA	YES	PERCENTAGE	TOTAL
JAIPUR	7	23.33	30
BIKANER	7	28.00	25
AJMER	4	20.00	20
KOTA	6	27.27	22
UDAIPUR	2	11.76	17
JODHPUR	10	40.00	25
BHARATPUR	4	20.00	20
MISSING/NO RESPONSE			0.00
TOTAL	40	25.00	160

5. BRANDED DRUGS PRESCRIBE BY THE DOCTORS WHEN THE REQUIRED DRUG IS NOT COVERED UNDER THE SCHEME

From the chart 5, it can be seen that 31 percent of total doctors i.e., 1 out of every 3 doctors wanted to prescribe branded drugs in case the required drug was not covered under the scheme.

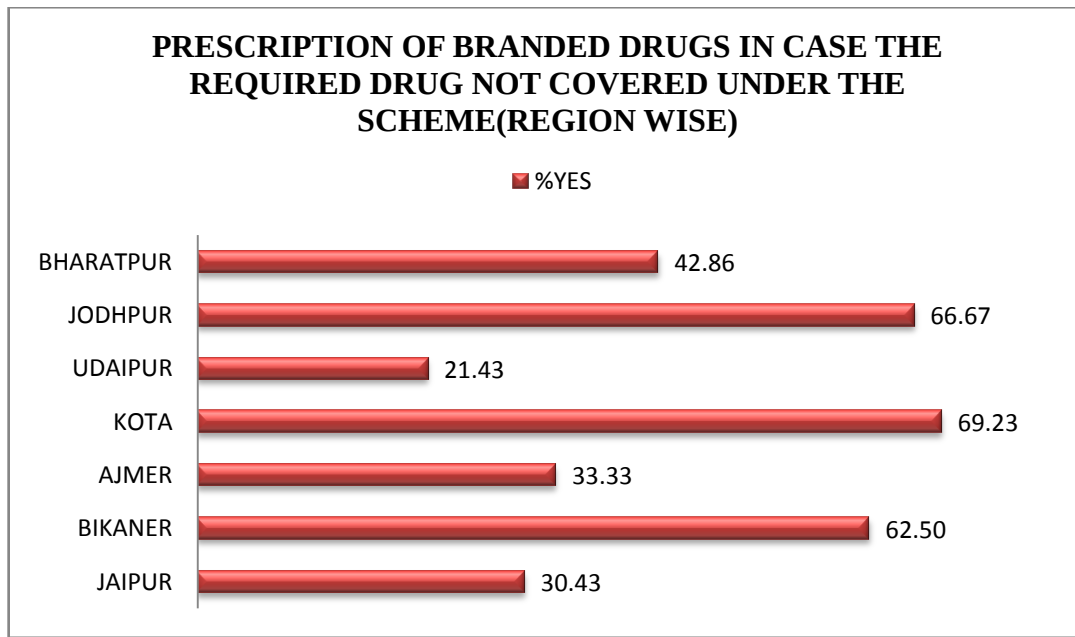
CHART 5:

PERCENTAGE DOCTORS PRESCRIBING BRANDED DRUGS IN CASE THE REQUIRED DRUG IS NOT COVERED UNDER THE SCHEME



5.1. PERCENTAGE OF DOCTORS PRESCRIBING BRANDED DRUGS IN CASE THE REQUIRED DRUG IS NOT COVERED UNDER THE SCHEME (REGION WISE)

CHART 6:



The above chart shows that proportion of doctors prescribing branded drugs when the required drug is not covered under the scheme is high in Kota, Jodhpur and Bikaner as compare to other regions.

5.3. NUMBER OF DOCTORS PRESCRIBING BRANDED DRUGS IN CASE THE REQUIRED DRUGS IS NOT COVERED UNDER THE SCHEME (HEALTHCARE WISE)

Table 8 shows that percentage of doctors in medical colleges and district hospitals prescribing drugs that are not covered under the scheme were much higher as compared to the CHCs and PHCs.

TABLE 8:PRESCRIPTION OF BRANDED DRUGS IN CASE THE REQUIRED DRUGS IS NOT COVERED UNDER THE SCHEME (HEALTHCARE WISE)

HOSPITAL TYPE	YES	%YES	TOTAL
MED. COLLEGE	29	38.16	76
DISTRICT HOSP.	12	27.91	43
CHCs	6	21.43	28
PHCs	3	23.08	13
TOTAL	50	31.25	160

6. PRESCRIPTION BEHAVIOUR OF DOCTORS IN TERMS OF NO. OF PATIENTS(OUT OF 10)

When the doctors were asked to answer, to how many patients out of 10 patients they prescribed branded drugs, 27 % doctors said “yes” they do prescribed. Moreover branded prescription was seen more in medical colleges as compared to other healthcare type. Below table and chart mentioned the no of branded prescription.

TABLE 9:

NO. OF BRANDED PRESCRIPTION OUT OF 10 PATIENTS

RESPONSE (NO. OF PATIENTS)	NO OF DOCTORS	PERCENTAGE
0	114	71.25
1-2	6	3.75
2	8	5.00
3	7	4.38
4-5	2	1.25
5	2	1.25
1/20	4	2.50
1	9	5.63
1/50	1	0.63
1-2	2	1.25
5/50	1	0.63
NO RESPONSE	4	2.50
TOTAL	160	100.00

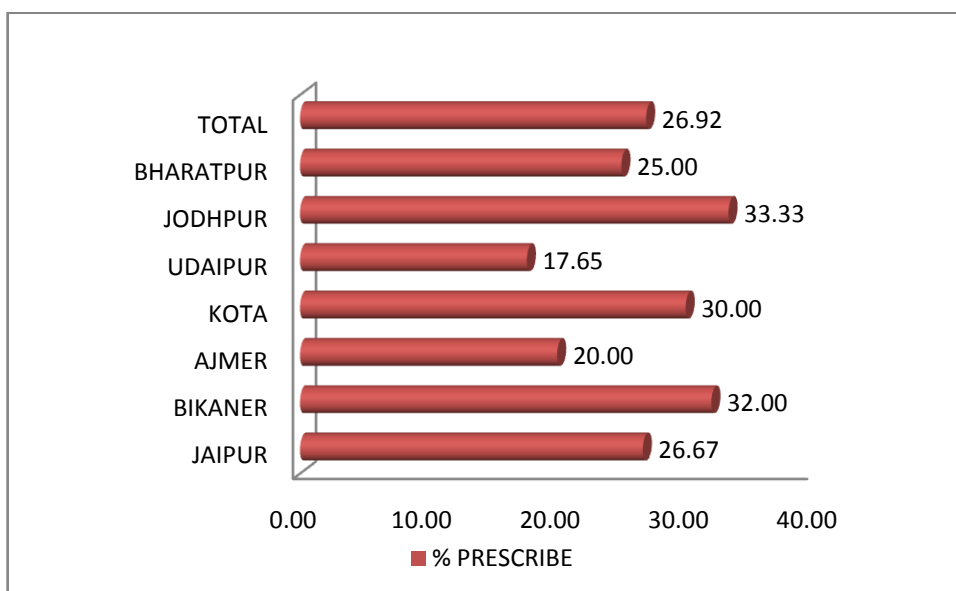
TABLE 10:

**NO. OF BRANDED DRUG PRESCRIPTION OUT OF 10 PATIENTS
(HEALTHCARE WISE)**

HOSPITAL TYPE	0	1- 2	2	3	4- 5	5	1/ 20	1	1/ 50	1- 2	5/ 50	TOTAL PRESCRIBE
MED. COLLEGE	4 7	4	5	5	1	2	2	6	0	1	0	26
DISTRICT HOSP.	3 4	1	1	0	1	0	2	2	1	1	0	9
CHCs	2 4	1	1	0	0	0	0	1	0	0	1	4
PHCs	9	0	1	2	0	0	0	0	0	0	0	3
TOTAL	1 1 4	6	8	7	2	2	4	9	1	2	1	42

CHART 7:

PERCENTAGE OF DOCTORS PRESCRIBING BRANDED DRUGS OUT OF 10 PATIENTS (REGION WISE)



7. BRANDED PRESCRIPTIONS IN CERTAIN DISEASE CONDITIONS.

It was shown that nearly half (51 percent) of the interviewed doctors wanted to prescribe branded drugs in case of certain disease conditions.

TABLE 11:

LIST OF MAJOR DISEASE CONDITIONS WHERE DOCTORS WANTS TO PRESCRIBE BRANDED DRUGS

DISEASE CONDITION	DISEASE CONDITION
MDR	OSTEOPOROSIS
SEPTICEMIA	OLIGOHYDRAMNIOS
DRY EYE PATIENT	MANIC DISORDER
GLUACOMA	MOLAR SURGERY
CORNIAL ULCERS	POISONING CASES(ANTI SNAKE VENUM)
POST OPERATIVE PATIENTS	PNEUMONIA
COPD	GANGRENE SERUM
MYOCARDIAL INFARCTION	HERNIA
TRAUMA PATIENTS	SEVERE ANAEMIA
VERTIGO	BLEEDING PR
ABORTION	NEUROGENIC DISORDERS
ANGINA	TINNITIS
EMERGENCY CASES	RENAL TRANSPLANT
GBS	POST PTCA
HYPERSENSIVITIVITY	DIARROHOEA
GINGIVITIS	NEPHROTIC SYNDROME
POLYMELITIS	PSYCHRIC CASES
HALITOSIS	RENAL DISEASE
SEVERE INFECTION	

PARKINSSONS DISEASE	POST PANCREATITIS PATIENT
ORAL SUBMUCUS FIBROSIS	VOMITING
	SKIN DISORDERS

TABLE 12:

**NO OF DOCTORS WANTED TO PRESCRIBE BRANDED DRUGS IN
ABOVE MENTIONED CASES. (REGION WISE)**

AREA	YES	% YES	TOTAL
JAIPUR	14	46.67	30
BIKANER	16	64.00	25
AJMER	8	44.44	18
KOTA	14	63.64	22
UDAIPUR	8	47.06	17
JODHPUR	12	52.17	23
BHARATPUR	10	50.00	20
TOTAL	82	52.90	155

TABLE 13:

**NO OF DOCTORS WANTED TO PRESCRIBE BRANDED DRUGS IN
ABOVE MENTIONED CASES.(HEALTHCARE TYPE)**

HOSPITAL TYPE	YES	% YES	TOTAL
MED. COLLEGE	45	60.00	75
DISTRICT HOSP.	17	41.46	41
CHCs	14	51.85	27
PHCs	6	50.00	12
TOTAL	82	52.90	155
NOT RESPONDED=5			

The above table shows that prescriptions of branded drugs in medical colleges were higher as compared to remaining healthcare type which showed an average 50% of the doctor's prescription.

8. COMMONLY PRESCRIBED MOLECULES BY THE DOCTOR

Following are the molecules that were commonly prescribed by the doctors to the patients. These molecules were further analyzed in the ORG/IMS sales data to determine the actual decline in the sales of the Rajasthan Pharmaceutical generic drug market

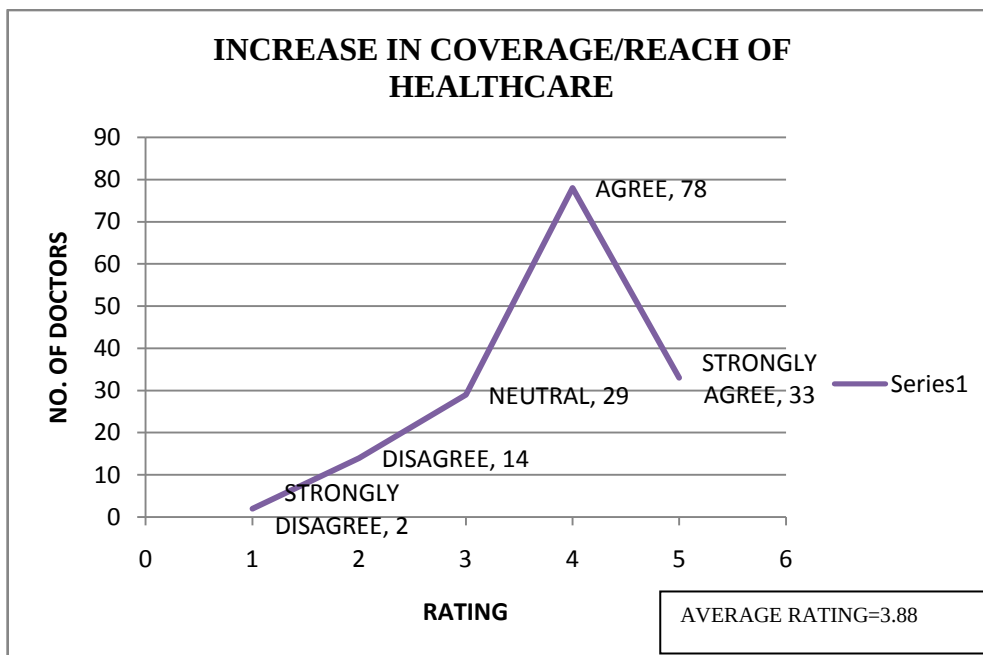
TABLE 14:

MOLECULE NAME	NO OF DOCTORS PRESCRIBE
PARACETAMOLE	53
AMOXICILLIN	36
CEFIXIME	35
DICLOFENAC	33
CIPROFLOXACIN	27
AZITHROMYCIN	17
METRONIDAZOLE	17
OFLOXACIN	17
VIT. B-COMPLEX	16
CITRIZINE	16
OMEPRAZOLE	15
CEFTRIAZONE	15
IBUPROFEN	13
RANITIDINE	13
CLOTRIMOXAZOLE	13

9. PERCEPTION OF DOCTORS REGARDING INCREASE IN COVERAGE/REACH OF THE HEALTHCARE FACILITY

In chart 8 the average rating figure came out to 3.88 which lies to the positive side i.e., agree. This shows that doctors were agree with the fact that there was an increase in “coverage/reach of healthcare facility” due to this scheme.

CHART 8:

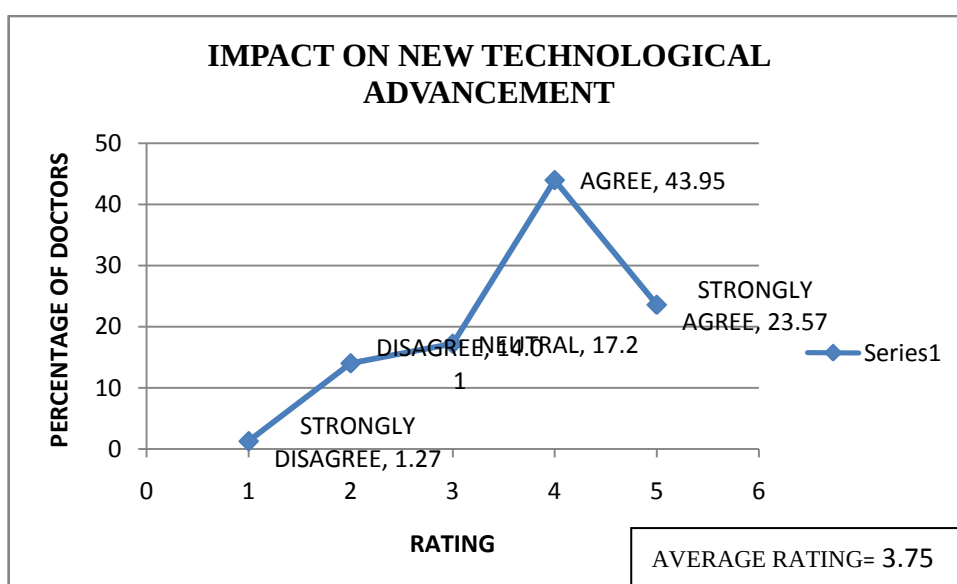


10. IMPACT OF THE SCHEME ON THE NEW TECHNOLOGICAL ADVANCEMENT IN THE EXISTING DRUG FORMULATIONS

In the below chart the average figure of data came out to be 3.75 which showed that doctors were agree with the fact that this kind of scheme is restricting the patient from gaining benefits of the new technological advancement in the existing drug formulations.

Following responses were shown when the doctors were asked to rate the above question.

CHART 9:



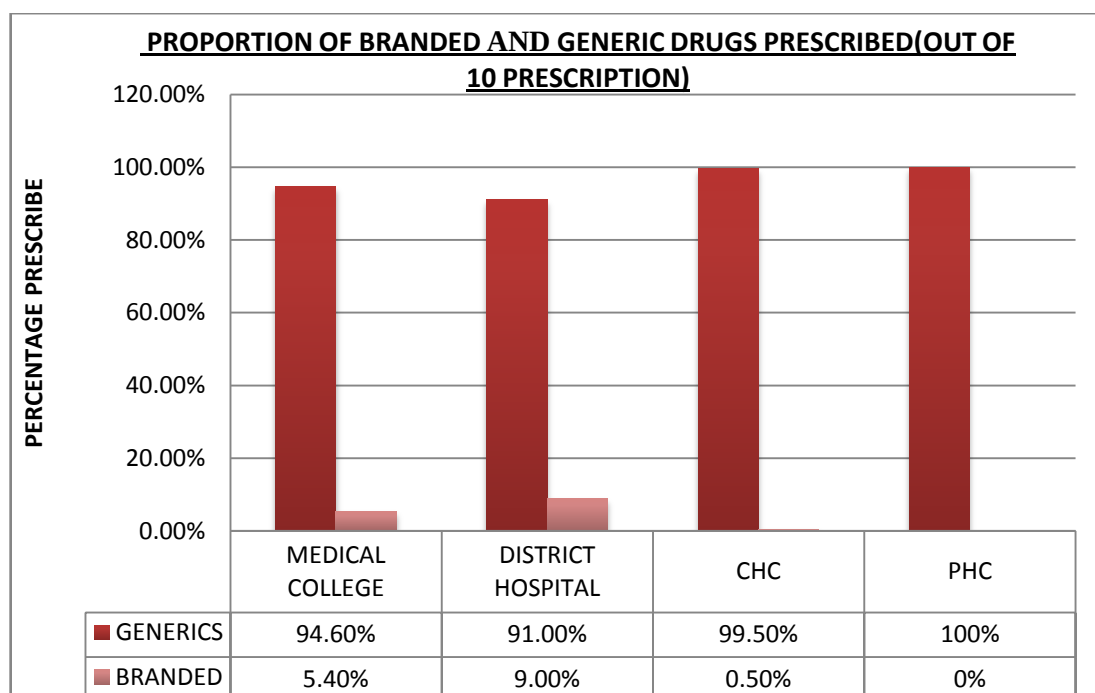
11. PHARMACIST'S AWARENESS REGARDING "FREE DRUG DISTRIBUTION SCHEME"

The analysis suggests that all the pharmacists at the DDC were aware of "free drug distribution scheme".

PROPORTION OF GENERIC VS BRANDED DRUGS IN THE GOVERNMENT MEDICAL STORES (OUT OF 10 PRESCRIPTIONS)

Chart 10 shows that at medical colleges and district hospitals, proportion of prescription containing branded drugs is just five percent and nine percent respectively as compared to CHCs and PHCs where almost all the prescriptions contained generic drugs.

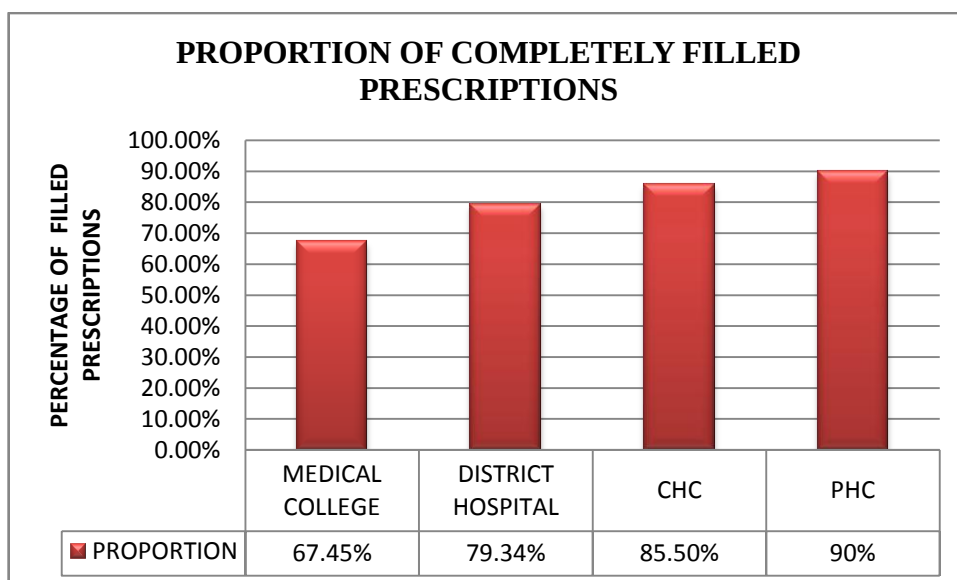
CHART 10:



12. PROPORTION OF PRESCRIPTIONS IN WHICH PATIENTS GET ALL THE PRESCRIBE MEDICINES.

The chart below shows that at the PHC and CHC level patient gets 85-90% of the total no. of prescribed drug which is much more as compared to medical college(67.45%) and District hospitals(79.34%). This shows that still 2-3 medicines were not available at the DDC.

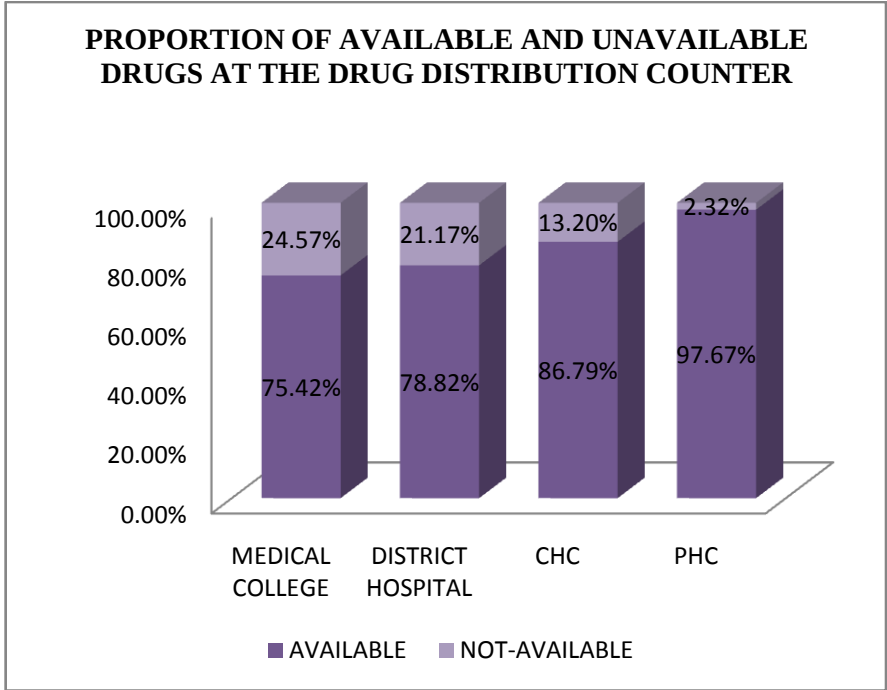
CHART 11:



PATIENT PRESCRIPTION AUDIT AT FREE DRUG STORE

After auditing 515 prescriptions at DDC it was found that unavailability of medicines in the patient’s prescription was still a major issue. Unavailability at medical college and district hospital is high as compared to the CHCs and PHCs.

CHART 12:



MARKET ANALYSIS OF ORG/IMS SALES DATA OF RAJASTHAN BRANDED GENERIC DRUG MARKET.

(FROM MAT¹ 03/2008 TO MAT03/2012)

Total No Of Drugs Purchased By The Rajasthan Government Under **Free Drug Distribution Scheme**(10/2011 TO 03/ 2012) = 375

Total No of Drugs Found/Analysed in the **ORG-IMS** Data = 311(**out of 375**)

TABLE 15: TOTAL RAJASTHAN BRANDED GENERIC DRUGS MARKET

YEAR	TOTAL PHARMACEUTICAL MARKET(IN RUPEES)	RAJASTHAN TOTAL SALE OF GENERIC DRUGS COVERED UNDER THE SCHEME.	MARKET SHARE BRANDED GENERIC DRUGS	DECLINED IN MARKET SHARE
MAT 03/2011 (BEFORE THE SCHEME)	Rs.23193159694	Rs.4611611299	19.88%	-1%
MAT 03/2012 (AFTER THE SCHEME)	Rs.24914908505	Rs.4704066888	18.88%	

¹M A T in Accounting and Turnover business terms stands for 'Moving Annual Total'.
It is a recording of turnover over a 12 month period to date.

SALES ANALYSIS:

Analysis of ORG/IMS sales data (Volume/Unit) has been done to compare **Compounded Annual Growth Rate 2008-2011 (CAGR)** and **Percentage Growth Rate (2011-2012)** of unit molecules and finding their difference as **Net Change in Volume Growth Rate**.

NET CHANGE IN GROWTH RATE= Percentage Growth Rate-Compounded Annual Growth Rate

On the basis of above calculation 4 clusters of drug molecules were formed and following assumptions have been made i.e.,

CLUSTER I: Molecules having Positive CAGR (2008-11) & Negative % Growth Rate (2011-12)

- Molecules which were growing before the launch of the scheme but declined afterwards.

CLUSTER II: Molecules having Negative CAGR (2001-11) & Negative % Growth Rate (2011-12)

- Molecules which were declining before and after the launching of scheme both.

CLUSTER III: Molecules having Negative (CAGR (2008-11) & Positive % Growth Rate (2011-12)

- Molecules which were declining before the scheme but didn't show any impact after the scheme.

CLUSTER IV: Molecules having Positive (CAGR (2008-11) & Positive % Growth Rate (2011-12)

- Molecules which were growing before and after the launch of the scheme both.

QUADRANTS SHOWING DIVISION OF CLUSTERS AND OPPURTUNITY IN RAJASTHAN PHARMACEUTICAL MARKET

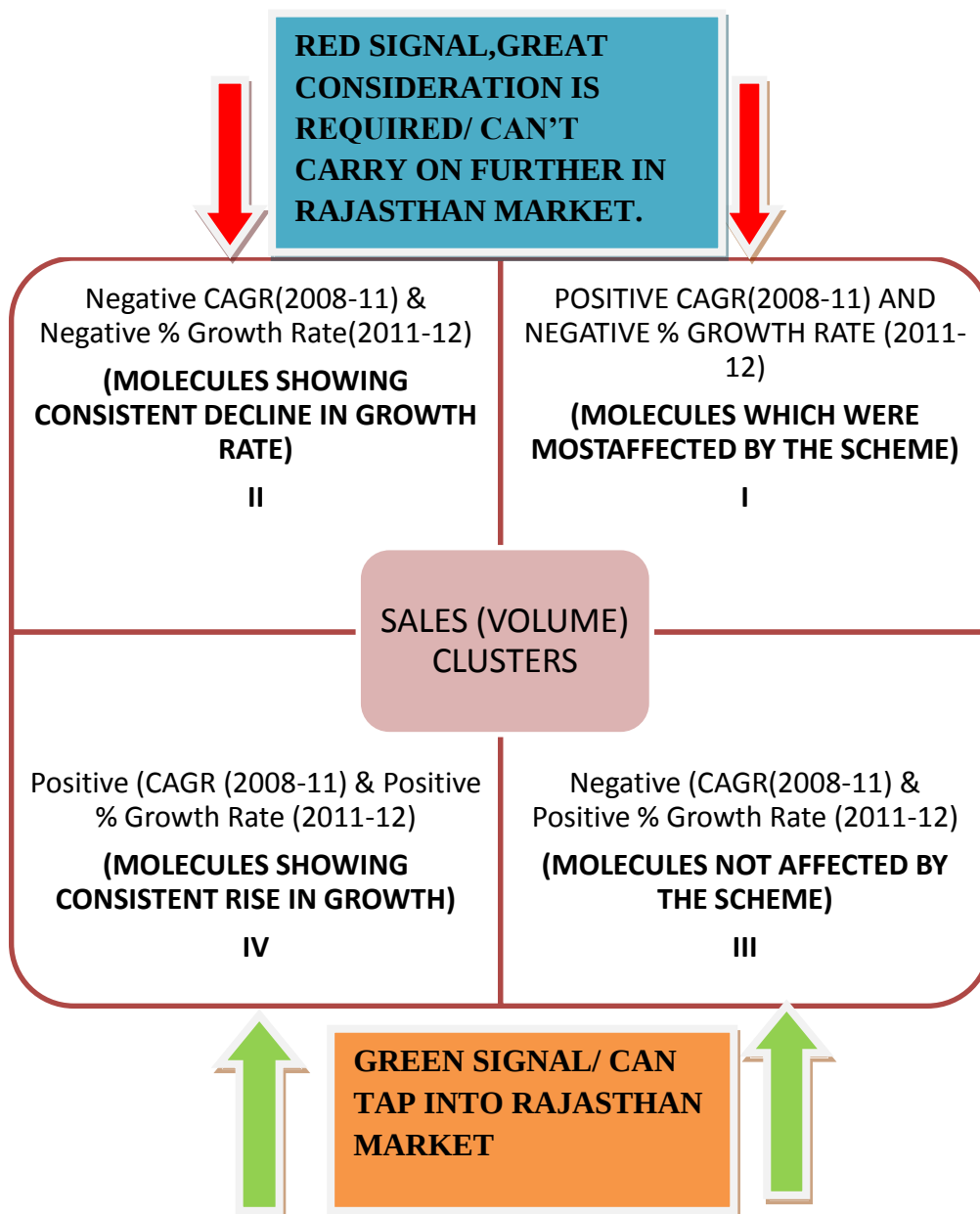


TABLE 16:**DIFFERNCE IN SALE OF CLUSTERS FOR 2011-2012**

CLUSTER	TOTAL SALE 2012(A)	TOTAL SALE 2011(B)	DIFFERENCE IN SALE(A-B)
I	1297487136	1450292171	-152805035
II	566639265	634022081	-67382816
III	642907242	569837814	73069428
IV	2193229725	1954111776	239117949

From the above table it can be observed that cluster III and IV are among the best for the companies to focus but the difference in sale of cluster IV is much higher as compared to cluster III. So we can say that company can focus more on the molecule list of cluster IV.

TABLE 17:**MARKET SHARE OF CLUSTERS IN FREE DRUG MARKET**

CLUSTER	NO. MOLECULES	% COVERED IN FREE DRUG MARKET
1	86	27.65
2	84	27.01
3	63	20.26
4	64	20.58

CLUSTER 1:

POSITIVE CAGR(2008-11) & NEGATIVE Percentage GROWTH RATE (2011-12)

These are the molecules which were having positive growth rate before the scheme but showed negative growth rate after the scheme. These molecules could be assumed as most affected molecules due to the Rajasthan Government Free Drug scheme.

TOTAL NO OF MOLUCULES = 86

TABLE 18:

LIST OF MOLECULES WHICH WERE FOUND GROWING BEFORE THE SCHEME BUT SHOWED NEGATIVE GROWTH RATE AFTER THE SCHEME.

MOLECULES WITH CHANGE IN VOLUME GROWTH RATE BETWEEN -1000% TO -100%							
DRUG CATEGORY	MOLECULE	UNIT_2008	UNIT_2011	UNIT_2012	CAGR 2008-11(%) (A)	%UNIT GROWT H 2011-12(B)	CHANGE IN VOLUME GROWTH(B-A)
PENICILLINS	BENZATHINE	42	42436	34114	903.4	-19.61	-923.06
	PENICIL INJ DRY				5		
	VIAL 1.20 M x 1						
PENICILLINS	CLOXACILLIN	175	11188	8605	299.8	-23.09	-322.94
	SODIUM				6		
	INJECTION IP 500MG						
IV SOLUTIONS & ELECTROLYTES	ELECTROLYTE-P	37150	64425	34305	158.8	-46.75	-205.59
	SOLUT.INJ 500 ML	0	00	00	4		
	x 1						
ANTICANCER	PACLITAXEL INJ. 260MG	694	6336	1128	109	-82.2	-191.2
ANALGESICS	PENTAZOCINE	8772	71294	7287	101.0	-89.78	-190.84
	INJ. 30MG/ML				6		

CEPHALOSPORINS	CEFTAZIDIME INJECTABLES 500MG	6379	48204	12832	96.24	-73.38	-169.61
AMOEBICIDES	METRONIDAZOLE SUSPENSION 100MG/5ML	54120	50154	44112	110.0	-12.05	-122.09
ANTI-ANAEMIC	ERYTHROPOIETIN 3K	1537	8379	4739	76	-43.44	-119.44
ANTICANCER	CYCLOPHOSPHAMIDE INJ 500MG	4175	6206	311	14.13	-94.99	-109.11
ANTI-MALARIAL	CHLOROQUINE (SYRUP 50MG/5ML)	10282	22058	52644	28.97	-76.13	-105.1

MOLECULES WITH CHANGE IN VOLUME GROWTH RATE BETWEEN -100% TO -25%

DRUG CATEGORY	MOLECULES	UNIT_2008	UNIT_2011	UNIT_2012	CA GR 2008-11(%)	%UNIT GRO WTH 2011-12	CHANGE IN VOLUME GRO WTH
ANTIEMETICS	DOMPERIDONE SUSP 5MG	48600	11078	51066	31.61	-53.91	-85.51
CARD. ANTIANGINAL	GLY.TRINIT./NITROGLY.(5MG/ML)	43770	66675	33870	15.06	-49.2	-64.26
CARD.SYMPATHO MIMETICS	DOBUTAMINE INJ. 50MG/ML	8910	11880	5730	10.06	-51.77	-61.83
ANESTHETICS GENERAL	PROPOFOL NJ IV. VIAL 1 %	24402	26680	11444	3.02	-57.11	-60.13
ANTI DIABETICS	GLIMEPIRIDE(2 mg)+METFORM(500 mg) Film coatedTablet	21411	35448	21254	18.3	-40.04	-58.34
ANTI FUNGAL TOPICAL	CLOTRIMOXAZOLE GEL 1 % 15 G	22185	28350	15660	8.52	-44.76	-53.28

ANTI DIABETICS	GLIMEPIRIDE(1		25717	50561	36965	25.	-	-
	mg)+METFORM(500		30	30	85	27	26.89	52.16
	mg) Film coated tablet							
ANTICOAGULANTS	ENOXAPARIN	INJ.	48043	88327	64660	22.	-	-49.3
	60MG					51	26.79	
MIS. ANTIBIOTICS	FURAZOLIDONE	100	12780	16472	10932	8.8	-	-
	MG		20	20	20	3	33.63	42.46
ANTI EPILEPTICS	PHENYTOIN		10845	14084	94063	9.1	-	-
	INJ.50MG/ML		22	54	2		33.22	42.32
CARD.ANTIARRHY	AMIODARONE (	INJ.	84738	13117	10284	15.	-21.6	-
THMIC AGENT	50MG/ML)			5	6	68		37.28
VACCINES	RABIES VACCINE	2.5	42748	55431	40153	9.0	-	-
	IU/DOSE		1	5	9	5	27.56	36.61
ANESTHETICS	PROPOFOL INJ VIAL	10	11936	26667	26155	30.	-1.92	-
GENERAL	MG		8	6	2	73		32.65
ANTI PSYCHOTICS	MIDAZOLAM INJ VIAL		15398	23999	20111	15.	-16.2	-
	1 MG		0	5	0	94		32.15
CEPHALOSPORINS	CEFTAZIDIME		13338	21063	18572	16.	-	-
	INJECTABLES 1GM		7	0	3	45	11.83	28.27
VITAMINES	VITAMIN B COMPLEX		44322	73042	66178	18.	-9.4	-
	1500 mg		0	0	0	12		27.52
ANTI FUNGAL	CLOTRIMOXAZOLE		41835	56160	46620	10.	-	-27.3
TOPICAL	PAINT 1 % 15 G					31	16.99	
ANTIULCER	PANTOPRAZOLE		51558	84941	78324	18.	-7.79	-25.9
	INJ.40MG		5	7	2	11		
CARD.ANTIARRHY	AMIODARONE	(TAB	92011	11046	89749	6.2	-	-
THMIC AGENT	200MG)		0	60	0	8	18.75	25.04

MOLECULES WITH CHANGE IN VOLUME GROWTH RATE BETWEEN -25% TO -15%

DRUG CATEGORY	MOLECULES	UNIT_2	UNIT_2	UNIT_2	CA	%UNIT	CHAN
		008	011	012	GR	GROW	GE IN
					200	TH	VOLU
					8-	2011-	ME
					11(	12	GROW
					%)		TH

IV SOLUTIONS & ELECTROLYTES	DEXTROSE		208390	309050	278930	14.	-9.75	-23.78
	SOLUT.INJ 25 %		0	0	0	04		
	100 ML x 1							
VITAMINES	VITAMIN B COMPLEX (paed)		502940	515210	397120	0.8 1	-22.92	-23.73
ANTICOAGULANTS	CLOPIDOGREL		633597	837024	719884	9.7	-13.99	-23.72
	TAB 75MG		4	0	0	3		
ANTIPARKINSONIA N	DANAZOL CAP		321080	429760	374900	10.	-12.77	-22.97
	50MG					21		
ANTI DIABETICS(INSULINS)	INSULIN INJ. 40		944331	132375	117866	11.	-10.96	-22.88
	IU/10ML		0	80	50	92		
VITAMINES	VITAMIN B COMPLEX	500	124507	138802	112448	3.6	-18.99	-22.68
	mg		86	60	90	9		
CARD.ANTIARRHYTHMIC AGENT	AMIODARONE		101290	107855	869620	2.1	-19.37	-21.49
	(TAB 100MG)		0	0		2		
QUINOLONES	OFLOXACIN DRY		260661	322719	278979	7.3	-13.55	-20.93
	SYRUP 50MG/		0	0	0	8		
	5ML							
CEPHALOSPORINS	CEFIXIME TAB		887083	138372	132950	15.	-3.92	-19.89
	100MG.		6	06	38	97		
ANTI ASTHMATICS	SALBUTAMOL		331399	393049	339666	5.8	-13.58	-19.43
	TABS 2 MG		20	80	80	5		
AMINOGLYCOSIDES	AMIKACIN		381344	465850	408426	6.9	-12.33	-19.23
	INJ.100MG		8	8	0			
ANTISPASMODICS	DICYCLOMINE		150310	176073	152602	5.4	-13.33	-18.75
	INJ. 10MG		6	6	0	1		
ANTIEMETICS	PROMETHAZINE		120569	147838	131409	7.0	-11.11	-18.15
	SYRUP 5MG		0	0	0	3		
CARD.VASODILATOR	ISOXSUPRINE 20		649580	870150	803100	10.	-7.71	-17.94
	MG					24		
PENICILLIN COMB.	AMOXICILLIN +		422076	498258	441171	5.6	-11.46	-17.14
	CLOXACILLIN		8	4	8	9		
	(250+250)							
PENICILLINS COMB.	AMOXICILLIN +		422076	498258	441171	5.6	-11.46	-17.14
	CLOXACILLIN		8	4	8	9		

(250+250)							
CO-TRIMOXAZOLE	COTRIMOXAZOL	234312	331149	317263	12.	-4.19	-16.41
	E.TAB	20	00	70	22		
	80MG+400MG						
ANTIFIBRINOLYTIC S	ETHAMSYLATE	156114	191598	174654	7.0	-8.84	-15.91
	INJ 250MG				7		
ANTISPASMODICS	DROTAVERINE	250715	298234	269000	5.9	-9.8	-15.76
	INJ. 40MG	4	0	0	6		
CARDIAC COMB.	AMLODIPINE(5	651820	778500	707500	6.1	-9.12	-15.22
	MG)+ENALAPRIL						
	(5 MG)						

MOLECULES WITH CHANGE IN VOLUME GROWTH RATE BETWEEN -15% TO -10%							
DRUG CATEGORY	MOLECULES	UNIT_2 008	UNIT_2 011	UNIT_2 012	CA GR 200 8- 11(%)	%UNIT GROW TH 2011- 12	CHAN GE IN VOLU ME GROW TH
GONADOTROPHI NS	CLOMIFENE	109259	130346	118853	6.0	-8.82	-14.88
	CITRATE TABLET 25 MG	0	0	0	6		
ANTISPASMODIC S	HYOSCINE 10 MG	325635 0	379234 0	343485 0	5.2 1	-9.43	-14.64
CARD.DIURETICS	TORSEMIDE 10MG	328349 0	459601 0	446942 0	11. 86	-2.75	-14.62
GONADOTROPHI NS	TAMOXIFEN CITRATE TAB 10MG	223610	268810	246690	6.3 3	-8.23	-14.56
CARDIAC COMB.	AMLODIPINE(5 MG)+LISINOPRIL(5 MG)	660049 0	666073 5	571355 5	0.3	-14.22	-14.52
CARD.CALCIUM CHANNEL BLOCKERS	AMLODIPINE TAB 2.5MG	695602 2	913763 7	869611 5	9.5 2	-4.83	-14.35

QUINOLONES	OFLOXACIN ORAL SOLUTION 50MG/ 5ML	234300 0	303996 0	289392 0	9.0 7	-4.8	-13.87
CARDIAC COMB.	AMLODIPINE(5 MG) + LOSARTAN(50 MG)	539155 0	640523 0	589931 0	5.9 1	-7.9	-13.81
CARD.HYPOLIPID EMICS	ATORVASTATIN TAB 10MG	125393 98	152284 65	141482 64	6.6 9	-7.09	-13.78
LOCAL ANESTHETICS	KETAMINE INJ. 50MG/ML	102110	115920	105060	4.3 2	-9.37	-13.69
ANALGESICS	DICLOFENAC TAB.50MG	797198 0	913587 0	842163 0	4.6 5	-7.82	-12.47
ANALGESICS	INDOMETHACIN CAPS 25 MG	119508 0	132213 0	120445 0	3.4 3	-8.9	-12.33
CARD.ANGIOTEN SIN ANTAGONIST	LOSARTAN(50 MG)+ HYDROCHLORTHIA Z(12.5 MG)	141660 69	170960 45	161865 55	6.4 7	-5.32	-11.79
ANTI PSYCHOTICS	CHLORPROMAZIN E TABS 50 MG	619100	704040	656070	4.3 8	-6.81	-11.19
TOPICAL CORTICOSTEROID S	TOBRAMYCIN+ DEXAMETHASONE DROPS 0.30 %	295068 5	311071 9	285570 9	1.7 8	-8.2	-9.97
MACROLIDES	AZITHROMYCIN TAB 100MG	138258 9	153407 2	143552 9	3.5 3	-6.42	-9.95
ANTI DIABETICS	GLIMEPRIDE 1 MG	737788 0	825282 0	776538 5	3.8 1	-5.91	-9.71

MOLECULES WITH CHANGE IN VOLUME GROWTH RATE BETWEEN -10% TO -1%							
DRUG CATEGORY	MOLECULES	UNIT_2008	UNIT_2011	UNIT_2012	CAGR 2008-11(%)	%UNIT GROWTH 2011-12	CHANGE IN VOLUME GROWTH
CARD.BETA BLOCKERS	PROPRANOLOL TAB 40MG	7587280	9287100	9082480	6.97	-2.2	-9.17
ANTI EPILEPTICS	CARBAMAZEPINE TAB (200MG)	18857030	21840060	20972750	5.02	-3.97	-8.99
PROGESTERONE & SIM. DRUGS	NORETHISTERONE TABS 5 MG	6403544	7402524	7181028	4.95	-2.99	-7.94
ANTI DEPRESSANT & ANTI-MANIA	AMITRIPTYLINE TABS 25 MG	2200000	2599760	2561280	5.72	-1.48	-7.2
CARD.ANGIOTENSIN ANTAGONIST	LOSARTAN 50MG	8024689	8694333	8306917	2.71	-4.46	-7.16
ANTI PSYCHOTICS	CHLORPROMAZINE TABS 100 MG	1106940	1164260	1107150	1.7	-4.91	-6.6
CEPHALOSPORINS	CEPHALEXIN ORAL SUSPENSION IP 125 MG/ 5 ML	8093070	8737710	8399520	2.59	-3.87	-6.46
ANTI-ANEMICS	FOLIC ACID TABLET 5 MG	26407484	29211553	28434884	3.42	-2.66	-6.08
ANTIULCER	FAMOTIDINE TABLET 40 MG	9815910	10341606	9919168	1.75	-4.08	-5.84
ANTI PSYCHOTICS	ALPRAZOLAM .5 MG	40002835	43176580	41864325	2.58	-3.04	-5.62
ANTIULCER	OMEPRazole 20MG	18982381	20027022	19448400	1.8	-2.89	-4.69

ANTIEMETICS	METICLOPROM IDE INJECTION 5 MG 10 ML	1202510 0	1314871 2	1294256 0	3.02	-1.57	-4.59
ANTIEMETICS	PROMETHAZIN E TAB 25MG	1412470	1518080	1487280	2.43	-2.03	-4.46
CEPHALOSPORI NS	CEPHALEXIN ORAL SOLIDS(500MG)	2796680	3026744	2973704	2.67	-1.75	-4.42
ANTI DIABETICS	GLIMEPRIDE 2 MG	5784270	5829905	5773340	0.26	-0.97	-1.23

FINDINGS: Though the molecules were declining yet it could not be strictly proved that their declination is only due to the scheme unless other factors remain constant. When the **top 15 molecules** which were prescribed by maximum no. of doctors were analysed in the clusters, 10 molecules were found in cluster 1 and, 2 molecules in cluster 2 (CLUSTERS SHOWING NEGATIVE GROWTH). This showed that the scheme has some impact on the sales as the mostly prescribed molecules were also showing negative growth rate.

LIST OF MOLECULES MOSTLY PRESCRIBED BY THE DOCTORS:

MOLECULE NAME*	NO OF DOCTORS PRESCRIBE
PARACETAMOLE ²	53
AMOXICILLIN	36
CEFIXIME	35
DICLOFENAC	33
CIPROFLOXACIN	27
AZITHROMYCIN	17
METRONIDAZOLE	17
OFLOXACIN	17
VIT. B-COMPLEX	16
CITRIZINE ²	16
OMEPRazole	15
CEFTRIAZONE ¹	15
IBUPROFEN ¹	13

*FREQUENCY OF MOLECULE IS TAKEN AS MINIMUM 10% OF THE TOTAL DOCTORS RESPONDED i.e 13 (TOTAL NO OF DOCTORS RESPONDED =130)

² NOT FOUND IN CLUSTER 1 & 2

¹ FOUND IN CLUSTER 2.

RANITIDINE²	13
CLOTRIMOXAZOLE	13

TABLE 19:

**DECLINE IN THE GROWTH RATE OF MOSTLY PRESCRIBED
MOLECULES BY THE DOCTORS.**

DRUG CATEGOR Y	PURCHASED DRUGS	UNIT _200 8	UNIT _201 1	UNIT _201 2	CAGR 2008- 11	%UNIT GROWTH 2011-12	CHANGE IN VOL GROWTH
PENICILLIN COMB.	AMOXICILLIN + CLOXACILLIN (250+250)	4220 768	4982 584	4411 718	5.69	-11.46	-17.14
MACROLID ES	AZITHROMYCIN TAB 100MG	1382 589	1534 072	1435 529	3.53	-6.42	-9.95
CEPHALOS PORINS	CEFIXIME TAB 100MG.	8870 836	1383 7206	1329 5038	15.97	-3.92	-19.89
ANTI FUNGAL TOPICAL	CLOTRIMOXAZOLE GEL 1 % 15 G	2218 5	2835 0	1566 0	8.52	-44.76	-53.28
ANTI FUNGAL TOPICAL	CLOTRIMOXAZOLE PAINT 1 % 15 G	4183 5	5616 0	4662 0	10.31	-16.99	-27.3
ANALGESI CS	DICLOFENAC TAB.50MG	7971 980	9135 870	8421 630	4.65	-7.82	-12.47
AMOEBICI DES	METRONIDAZOLE SUSPENSION 100MG/5ML	5412 0	5015 40	4411 20	110.0 5	-12.05	-122.09
QUINOLO NES	OFLOXACIN DRY SYRUP 50MG/ 5ML	2606 610	3227 190	2789 790	7.38	-13.55	-20.93
QUINOLO NES	OFLOXACIN ORAL SOLUTION 50MG/ 5ML	2343 000	3039 960	2893 920	9.07	-4.8	-13.87
ANTIULCE R	OMEPRAZOLE 20MG	1898 2381	2002 7022	1944 8400	1.8	-2.89	-4.69
VITAMINE S	VITAMIN B COMPLEX (PAED)	5029 40	5152 10	3971 20	0.81	-22.92	-23.73
VITAMINE S	VITAMIN B COMPLEX 1500 MG	4432 20	7304 20	6617 80	18.12	-9.4	-27.52
VITAMINE S	VITAMIN B COMPLEX 500 MG	1245 0786	1388 0260	1124 4890	3.69	-18.99	-22.68

CLUSTER 2: (NEGATIVE CAGR (2008-11) & NEGATIVE % GROWTH RATE (2011-12))

These are the molecules that were in declined phase both before and after the launch of scheme.

TOTAL NO OF MOLECULES = 84

CLUSTER 3: Negative (CAGR (2008-11) & Positive % Growth Rate (2011-12))

These are the molecules which were declining before the launch of the scheme but didn't show any impact after the scheme. Therefore, these molecules can be thinking of as the target molecules that can be positioned in Rajasthan Pharmaceutical Market by the pharmaceutical companies.

TOTAL NO MOLUCULES= 63

CLUSTER 4: Positive (CAGR (2008-11) & Positive % Growth Rate (2011-12))

These are the molecules which were not affected at all by the scheme and have maintained their growth consistently. These molecules must be consider more to tap the Rajasthan pharmaceutical market.

TOTAL NO. OF MOLECULES = 64

KEY FINDINGS OF THE STUDY

- Quality, safety, and efficacy of government purchased generic drugs were found to be neutral that is doctors were still not sure about these three attributes of a generic drugs.
- Less bioavailability, Combination drugs not available, Reliability, No FDA approval, No cold chain maintenance of generic drugs were the other issues related to generic drugs.
- Branded drug prescription was found high in medical colleges and district hospitals.
- Almost 1 out of every 4 doctors was prescribing branded drug to his/her patient and not more than 1-2 medicines out of 10 patients.
- 1 out of every 3 doctors wanted to prescribe branded drugs if the required drug was not covered under the scheme.
- 50 % of the government doctors also wanted to prescribe branded drugs in certain cases disease conditions.
- As per doctors coverage/ reach of healthcare facility were increased due to this scheme the increase in patient load did not provide sufficient time to the doctors to diagnose each patient properly. Also patient visit after every 3 days also caused false rise in increase patient.
- New technological advancement was also affected due to implementation of the scheme.
- Patients did not get 1 out of every 4 drugs prescribed at the DDC. Unavailability was still a major issue.
- Nearly 28 % of the Rajasthan pharmaceutical market is affected due to this scheme which showed a drastic decline in their growth rate.

RECOMMENDATIONS

The free drugs cover only 20 percent of the total Rajasthan Pharmaceutical market so still there is an opportunity left for the remaining 80percent market.

Molecules found in Cluster I are commonly prescribed ones that includes analgesics, antibiotics, anti-psychotics, anti-diabetics etc. Sales of these drugs have to go down due to high prescriptions; therefore, company should avoid bringing these molecules in the Rajasthan market and should focus more on those molecules which are showing good growth rate.

Molecules from the Cluster III and most preferably from Cluster IV could be choose to target the Rajasthan pharmaceutical market as drugs in these clusters have shown a positive growth rate in spite of the involvement of FDDS..

Moreover 25-30 percent of the doctors are still going for branded prescription; therefore, these doctors could be the valued customer for the company.

Unavailable drugs cover almost 25percent of the prescription. Patient have to buy these unavailable drugs from the private stores, therefore, company have the opportunity to fill these prescriptions.

Company can also fill the government tender regarding the procurement of these free drugs and should ensure good quality, safety and efficacy of their product to the government and through some economical manufacturing facilities can supply these drugs to the government at good marginal rate as fixed by the government.

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ANNEXURE1:

QUESTIONNAIRE FOR DOCTORS

Q1. Do you know about generic drugs?

- a. Yes b. No

Q2. If yes, what do you feel about the following parameters of generic drugs as compared to branded drugs?

a. Quality:

1. Very poor 2. Poor 3. Neutral 4. Good 5. Very good.

b. Safety:

1. Very poor 2. Poor 3. Neutral 4. Good 5. Very good.

c. Efficacy:

1. Very poor 2. Poor 3. Neutral 4. Good 5. Very good.

Q3. On what parameters branded drugs differ from generic drugs (apart from above mentioned)?

Q4. Are you aware about Rajasthan Government “FREE DRUG DISTRIBUTION SCHEME”?

- a. Yes b. No

Q5. What types of cases (disease patient) do you see in a day?

Q6. What type of medicines do you prefer to prescribe for the above cases?

Q7. Is there any branded medicine you prescribe for the above cases? If yes, how many, say, out of 5 medicines you prescribe?

Q8. Do you prescribe any branded drug, in case the required drug is not covered under the scheme?

a. Yes

b. No

Q9. Out of 10 patients, to how many patients do you prescribe branded drugs?

Q10. Do you feel the need to prescribe branded drugs in certain cases? If yes, could you please mention some cases (Disease Condition)?

Q11. What are the top 5 commonly prescribe molecules by you?

Q12. Do you think, the coverage/reach of healthcare facility (in terms of patients) is increasing/decreasing with the implementation of this scheme? If yes, rate the following with 1= strongly disagree to 5= strongly agree)

INCREASING

1. Strongly disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly agree.

Q13. Do this kind of scheme preventing the patient from gaining benefits of the new technological advancement in the existing formulations?

1. Strongly disagree 2. Disagree 3. Neutral 4. Agree 5.strongly agree

ANNEXURE 2:

QUESTIONNAIRE FOR PHARMACIST:

Q1. Is there any scheme from Rajasthan government to prescribe only generic drugs?

- a. Yes b. No

Q2. In a typical day of your life, out of 10 prescriptions that you receive how many are of generic drugs?

Q3. Out of 10 prescriptions how many do you think that are completely filled with the available drugs?

Q4. Rate the different parameters according to their importance and your level of satisfaction. (On the scale of 1 to 5, 1= very poor, 5= very good)

	Rating				
Quality of the drugs	1	2	3	4	5
Availability of the drugs	1	2	3	4	5