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Research Paper

A study of Anti-diabetic Medicine and future scope of its market in India

Management

KEYWORDS : Anti diabetic medicine, Glimepiride and Metformin combination, Insulin

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ABSTRACT

Objective:

To study the present scenario of diabetic market in India and future scope of business development of companies operating in this segment.

Design: The present study is an observational, cross-sectional study.

Setting and Participants: 120 doctors, 300 patients, 75 wholesalers/Stockiest and 150 Retailers from 15 cities of India.

Methods A predesigned questionnaires containing multiple choice questions were given to doctors, wholesalers/ stockiest and retailers to get the market shares in terms of prescriptions and rupee value for different brands.

Statistical analysis:

The result of the study was tabulated and statistically analyzed in terms of percentage and their order.

Results:

Amongst 120 doctors, 71 were diabetologist, 22 were general physician and 27 were nephrologists. Diabetologists see 48.70% patients of diabetes mellitus whereas general nephrologists see 29.60% and physician see 35.90% of diabetic patients. The ratio of type 2 to type 1 DM seen by these doctors is 2.541, 2.677 and 15.2 by diabetologists, nephrologists and general physician respectively. On studying prescribing habit by doctor and availability of drugs the order of preference was Glimepiride and Metformin combination followed by Metformin and then Glimepiride and least for glargine monotherapy.

Conclusion:

Most of the type 1 DM patients are taking their treatment from diabetologists. Combination therapy of Glimepiride + Metformin is most widely used drugs to treat type 2 diabetes. There is a gap in demand and supply of insulin.

Introduction:

Diabetes is fast gaining the status of a potential epidemic in India with more than 62 million diabetic individuals currently diagnosed with the disease. In 2000, India (31.7 million) topped the world with the highest number of people with diabetes mellitus followed by China (20.8 million) with the United States (17.7 million) in second and third place respectively. According to Wild et al. The prevalence of diabetes is predicted to double globally from 171 million in 2000 to 366 million in 2030 with a maximum increase in India. It is predicted that by 2030 diabetes mellitus may afflict up to 79.4 million individuals in India, while China (42.3 million) and the United States (30.3 million) will also see significant increases in those affected by the disease. India currently faces an uncertain future in relation to the potential burden that diabetes may impose upon the country. Today, India has a primary position in the global diabetes epidemiology map and the highest number in the world. This is both, due to a rising prevalence of the disease and the large population in the country. Therefore epidemiology of diabetes in India has gained great significance both in estimating the burden of the disease and also in finding out the risk factors with an ultimate goal of prevention of the disease.

This present study is conducted to analyse the present scenario of diabetic market, prevalence of different types of diabetes, proportion of patient being covered by doctors of different specialities and future scope of companies operating in this segment.

Material and Method:

The present study is an observational, cross-sectional study conducted on 120 doctors, 300 patients, 75 wholesalers/Stockiest and 150 Retailers from 15 cities of India. A predesigned questionnaires containing multiple choice questions were given to doctors, wholesalers/ stockiest and retailers. Questionnaire was different for each group and was related to the drug prescribing habits of doctors, availability, demand and supply of the particular molecules for stockiests and retailers. The prescription form of the diabetic patients was studied to know what they are being prescribed by the doctors. The result of the study was tabulated and statistically analyzed.

Result:

Amongst 120 doctors, 71 were diabetologist, 22 were general physician and 27 were nephrologists. Amongst all the patients seen by the doctors diabetologists see 48.70% patients of diabetes mellitus whereas general physician see 29.60% and nephrologists see 35.90% of diabetic patients. The ratio of type 2 to type 1 DM seen by these doctors is 2.541, 2.671 and 15.2 by diabetologists, nephrologists and general physician respectively. On analyzing prescribed habit of doctors it was found that most commonly prescribed drug was insulin (18.78) followed by Glimepiride and metformin combination (17.37) and metformin (15.02) monotherapy and least for glargine monotherapy On studying retailers drug movements maximum movements was for Glimepiride and metformin combination (19.08) followed by metformin (15.21) , insulin (14.70), glimepiride (12.96) and least for glargine monotherapy. On studying wholesalers drug movement the order was Glimepiride +Metformin followed by metformin > insulin > Glimepiride> Voglibose > G+M+P (Glimepiride+Metformin+Pioglitazone low dose) and again it was least for glargine monotherapy. On studying drug consumption of the patients the order was Glimepiride+Metformin > metformin > Glimepiride > Insulin, and least for glargine.

Discussion:

In our study high number of Diabetologists was taken as they are exclusively treating Diabetes, we also tied to cover doctors from other specialities and general physicians (GP). Physicians were taken as they cover mass population and most of the diabetic patient visits them first. Nephrologists were also included as Diabetes is one of the main cause for renal complications. So we have 59.16 % diabetologists, 18.33 % physicians and 22.50% doctors from other speciality (Nephrology).

On analysing percentage of the diabetic patient covered by doctors of different specialities, it is found that among all the pa-

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tients visiting diabetologists only 48.70% patient had diabetes. A GP sees nearly 36% and nephrologist nearly 30%. This shows that diabetes is not only treated by a specialist of it and GPs but also it makes enough contribution amongst other specialities.

On further analysing the sub types of diabetes treated by different groups of the doctors, it is found that for every 15 patient of Type 2 DM a GP sees only 1 case of Type 1 DM. A nephrologist and a diabetologists for every 2 -3 patient of Type 2 DM sees only 1 patient of Type. Comparatively less number of patients of type 2 DM covered by GP, this is because Type 1 diseases occur in early age groups and most of them are under the treatment of either paediatricians or a specialists. Most of the type 1 DM is cured by diabetologists as it involves subcutaneous administration of insulin injection which is to be administered in accurate doses in proper timing and it is risky if cured by any GP. Comparatively same ratio of patients are covered by nephrologists, it is because DM leads to many renal complication and earlier the disease appear (Type 1 DM) earlier and sever the complications occur. During the treatment of those renal complications, simultaneous management of DM is also important.

In general the order of preference was Glimepiride and Metformin combination followed by Metformin and then Glimepiride and and least for glargine monotherapy. As per recent data by a Marketing research firm, SMSRC, the drug preference to treat the diabetic patients per 100 patients is as Glimepiride+Metformin followed by metformin > Glimepiride> Voglibose > G+M+P > GL + M > V + M > Vog + M +G, although data on Insulin and Glargine has not been captured in SMSRC research. SMSRC data supports the outcome of study that most prefer drug is Glimepiride +Metformin followed by Metformin and then Glimepiride.

On further analyzing it was found that taking both types of diabetes into account Insulin is the most common drug prescribed by the doctors, on analyzing whole sellers and retailers movement it ranks second and third respectively. To our surprise insulin is in fourth drug consumed by the patients after Glimepiride+Metformin > metformin > Glimepiride. It may be because of its unavailability at drug retailers and whole sellers. Injectable mode of administering the drug may also be a probability. Sanofi, a relative newcomer in diabetes management market, is changing the rules of the game by lowering prices and localizing products for treatment of the disease in the country. Company in October 2013 launched a low-cost, reusable insulin pen called All Star, priced at Rs.650. But still there is a huge gap in demand and supply of insulin which can be overcome by insuring its availability at all places. It seems that pharma companies also have great scope in insulin and its different methods and mode of administering.

Table-1 Doctor Matrix

S.no	Speciality	Numbers	Percentage (%)
1	Diabetologist	71	59.16%
2	Nephrologist	27	22.50%
3	Physician	22	18.33%
Total Doctors		120	100%

Table -2 Number of Diabetic patient in general population

S.no	Speciality	Diabetic patients/10 patient seen	Percentage (%)
1	Diabetologist	4.87	48.70%
2	Nephrologist	2.96	29.60%
3	Physician	3.59	35.90%

Table-3 Specialty wise Diabetes ration

S.no	Speciality	Diabetes	
		Type-1	Type-2
1	Diabetologist	144	366
2	Nephrologist	31	83
3	Physician	5	76

Table-4 Speciality wise Drug preference

S.no	Specialty											Total
		M	G	Insulin	Glargine	Vog	G + M	V + M	GL + M	G+M+P (low)	Vog+ M+G	
1	Doctor's Rxs	96	72	120	23	58	111	33	38	42	46	639
	Percentage %	15.02	11.27	18.78	3.60	9.08	17.37	5.16	5.95	6.57	7.20	
2	Retail's drug movement	472	402	456	134	301	592	149	198	209	190	3103
	Percentage %	15.21	12.96	14.70	4.32	9.70	19.08	4.80	6.38	6.74	6.12	
3	Stockiest/Wholesaler's Drug movement	295	256	295	73	169	362	93	97	147	104	1891
	Percentage %	15.60	13.54	15.60	3.86	8.94	19.14	4.92	5.13	7.77	5.50	
4	Number of patient on Drug	66	40	22	7	20	92	12	15	17	9	300
	Percentage %	22.00	13.33	7.33	2.33	6.67	30.67	4.00	5.00	5.67	3	

M =Metformin, **G**= Glimepride, **Insulin**, **Glargine**, **Vog**= Voglibose, **G + M**=Glimepiride+Metformin, **V + M** =Vildagliptin+Metformin,

GL+M=Gliclazide+Metformin, **G+M+P**= Glimepiride +Metformin+Pioglitazone(low dose), **Vog+M+G**= Voglibose+Metformin+ Glimepiride.

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