Research Article

PHARMACEUTICAL MARKETING INVESTIGATION OF PIOGLITAZONE AND ITS COMBINATIONS USED FOR DIABETES MELLITUS IN MORADABAD AND BAREILLY DISTRICTS OF UP

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ABSTRACT

Diabetes is a group of chronic diseases characterized by high levels of blood glucose due to alterations in insulin production or insulin action or both. In this, we investigated pharmaceutical marketing of Pioglitazone and its combinations used for Diabetes Mellitus in Moradabad and Bareilly Districts of UP. For investigation, we made two questionnaires, and distributed questionnaire (Appendix 1) to physicians and another questioner to medical store in charge. On the basis of physician opinion on the Diabetes (type 2), we resulted with 46.48% diabetes patients of total OPD patients out of which 89.01% patients are new type 2 patients. There are 12, 12 and 11 brands in Pioglitazone, Pioglitazone with Metformin and Pioglitazone, Metformin & Glimepride categories, respectively. The sale of Piosys, Gluconorm-P and Gluconorm-PG brands of the pioglitazone only, pioglitazone & metformin and pioglitazone, metformin & glimepride, respective categories, were highest in the area of interest.

KEY WORDS: Diabetes Mellitus; Pioglitazone;　　Combination drugs; Marketing Investigation.

INTRODUCTION

The prevalence of diabetes is increasing due to diet changes, aging, urbanization, and increasing prevalence of obesity and physical inactivity. In 2000, the World Health Organization indicated there were approximately 170 million people with diabetes, and estimated that the number of cases of the disease worldwide will have more than doubled to 366 million by 2030 (*Amos et al., 1997*, *Wild et al., 2004* and *Moreira et al., 2010*). *King et al., 1998* predicted a rise in global diabetes prevalence to 5.4% of the world population by the year 2025 (27% increase in developed countries and 48% increase in developing countries). Diabetes is a group of chronic diseases characterized by high levels of blood glucose due to alterations

in insulin production or insulin action or both (*de Belvis et al., 2009*). Diabetes mellitus (DM) consists of a group of syndromes characterized by hyperglycemia; altered metabolism of lipids, carbohydrates, and proteins; and an increased risk of complications from vascular disease (*Davis, 2006*). Diabetes mellitus impairs the normal capacity of the liver to synthesize glycogen. Synthase phosphatase activates glycogen synthase resulting in glycogenesis and this activation appears to be defective in diabetes (*Grover et al., 2002*). Skeletal muscle is also a major site of insulin-stimulated glucose uptake (*Bouche et al., 2004* and *Pandit et al., 2010*).

Pharmaceutical marketing, sometimes called medico-marketing, is the business of advertising or otherwise promoting the sale of pharmaceuticals. There is some evidence that marketing practices can negatively affect both patients and health care profession. Many countries have measures in place to limit advertising by pharmaceutical companies. The marketing of medication has long history. The sale of miracle curve, many with little real potency, has always been common. Marketing of legitimate non-prescription medication, such as pain relievers or allergy medicine, has also long been practiced, although, until recently, mass marketing of prescription medications has been rare. It was long believed that since physicians made the selection of drugs, mass marketing was a waste of resources; specific advertisement targeting the medical profession were thought to be cheaper and just as effective. This would involve advertisement in professional journals and visits by sales staff to physicians's offices and hospitals. An important part of these efforts was marketing to medical students (*Itkar, 2006*). On the basis of this background, we made pharmaceutical marketing investigation of Pioglitazone and its combinations used for Diabetes Mellitus in Moradabad and Bareilly districts of UP.

MATERIALS AND METHODS

Sample and Study design

This study utilized a cross-sectional survey design and was conducted by administering a validated questionnaire to physicians and medical store of Moradabad and Bareilly report on pioglitazone and its combinations drugs. Since this study was carried out during February- April 2013, the sample consisted of Physicians and medical store in charge in the Moradabad and Bareilly districts of UP.

Study Instrument

A questionnaire (**Appendix 1**) was designed to collect information on Diabetes mellitus from the physicians. Another questionnaire (**Appendix 2**) was prepared for collecting information through medical stores. Both questionnaires were initially validated by two senior faculty members for content before data collection.

(APPENDIX 1)
PHARMACEUTICAL MARKETING REPORT
Physician opinion on diabetes Mellitus and pioglitazone and its combinations:
1. How many patients are coming to OPD in a day?
2. How many patients are suffering from Diabetes Mellitus?
3. How many patients are suffering from Type-2 Diabetes?
4. How many of them are new patients?
5. What is your choice of drug to treat type-2 Diabetes?
6. What are the concerns associated with Diabetes in your practice regarding quality of life?
7. What is major issue associated with Diabetes in Indian society as treatment prospective?
8. Do you prescribe Pioglitazone and its combinations?
9. If yes, then what are their brand names?
Sign and Seal

(Appendix 2)
Medical store in charge report about the Pioglitazone and its combinations

1-Brands having only pioglitazone

S. No.	Brand	Company	Strength	Value	Price
1.	Piomed	IPICA	Pioglitazone (15mg)		
02.	Piomed	IPICA	Pioglitazone (30mg)		
03.	Pioz	USV	Pioglitazone (15mg,30mg)		
04.	Pioglit	SUNPHARMA	Pioglitazone (15mg,30mg)		
05.	Pioglar	STANCARE	Pioglitazone (15mg,30mg)		
06.	Piosys	SYSTOPIC	Pioglitazone (15mg,30mg)		
07.	Pionorm	MICRO	Pioglitazone (15mg,30mg)		
08.	Path	LUPIN	Pioglitazone (15mg,30mg)		
09.	Piopod	TORRENT	Pioglitazone (15mg,30mg)		
10.	G-Tase	UNICHEM	Pioglitazone (15mg,30mg)		
11.	Piosafe	GENETICA	Pioglitazone (15mg,30mg)		
12.	Piozone	ABBOTT	Pioglitazone (15mg,30mg)		

Sign and Seal

2-Brands having combination of Pioglitazone with Metformin

Brand	Company	Strength	Value	Price
Piomid-M	IPICA	P (15 mg)+M(500 mg)		
Piomid-M	IPICA	P (30 mg)+M(500 mg)		
Mopaday	WOKHARDT	P (30 mg)+M(500 mg)		
Pios-MF	USV	P (30 mg)+M(500 mg)		
Piolit-MF	SUNPHARMA	P (15 mg)+M(500 mg)		
Cetapin-P	AVENTIS	P (15 mg)+M(500 mg)		
Gluconorm-P	LUPIN	P (15 mg)+M(500 mg)		
Glyciphage-P	FRANCO	P (15 mg)+M(500 mg)		
Piogar-M	RANBAXY	P (15 mg)+M(500 mg)		
Pio-M	SYSTOPIC	P (15 mg)+M(500 mg)		
Pionorm-M	MICRO	P (15 mg)+M(500 mg)		
Pionorm-MF	TORRENT	P (15 mg)+M(500 mg)		

Sign and Seal

3-Brands with Pioglitazone, Metformin and Glimepride

Brand	Company	Strength	Value	Price
Piomed-MG	IPICA	P (15 mg)+M(500 mg)+G(2mg)		
Tribet	ABBOTT	P (15 mg)+M(500 mg)+G(2mg)		
Tripride	MICRO	P (15 mg)+M(500 mg)+G(2mg)		
Gluconorm-PG	LUPIN	P (15 mg)+M(500 mg)+G(2mg)		
Gemer-P	SUNPHARMA	P (15 mg)+M(500 mg)+G(2mg)		
Pioz-MF-G	USV	P (15 mg)+M(500 mg)+G(2mg)		
Glimest AR-PM	MANKIND	P (15 mg)+M(500 mg)+G(2mg)		
Mertide Plus	UNICHEM	P (15 mg)+M(500 mg)+G(2mg)		
Triglimeprex	GENETICA	P (15 mg)+M(500 mg)+G(2mg)		
Glyciphage-PG	FRANCO	P (15 mg)+M(500 mg)+G(2mg)		
Zoryl-MP	INTAS	P (15 mg)+M(500 mg)+G(2mg)		

Sign and Seal

Statistical design

The results were expressed using GraphPad Prism 5.0 (Graph-Pad Software Inc., San Diego, California, USA).

RESULT AND DISCUSSION

Physician opinion

Physician opinion on the Diabetes (type 2) are shown in the figure from the total OPD patients there are 46.48% patients are diabetes patients and of which 89.01% patients are new type 2 patients (Figure 1).

Medical store in charge report

Only pioglitazone

There are 12 brands of pioglitazone were found in the market. The sale of **PIOSYS** of **SYSTOPIC** was higher among all other medicine and the sale was 33% of the total market and results are shown in the figure 2.

Pioglitazone with Metformin

There are also 12 brands which include both pioglitazone and metformin. The investigation results produced the highest sale of

GLUCONORM-P of **LUPIN**. The sale was 41% and presented in figure 3.

Pioglitazone, Metformin and Glimepride

In this category 11 branded products were available and **GLUCONORM-PG** of **LUPIN** has the highest sale. The sale was found as 16% and the results are shown in the figure 4.
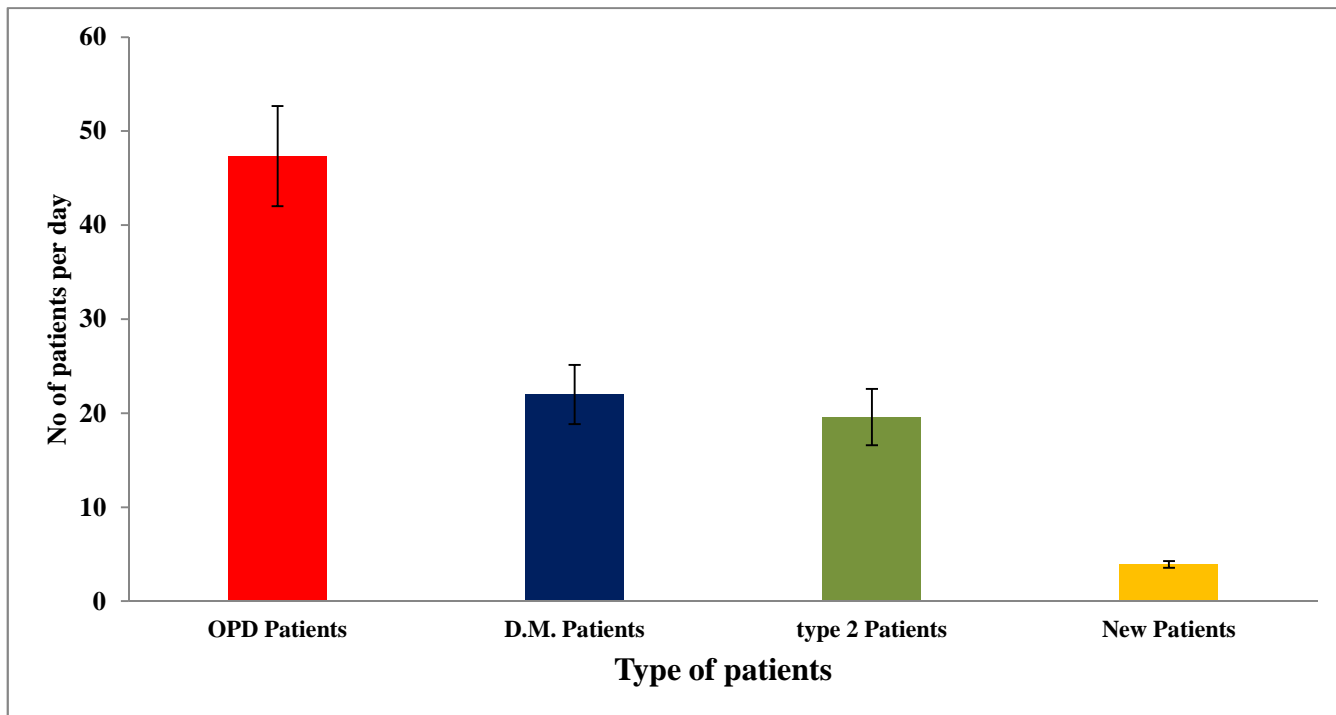

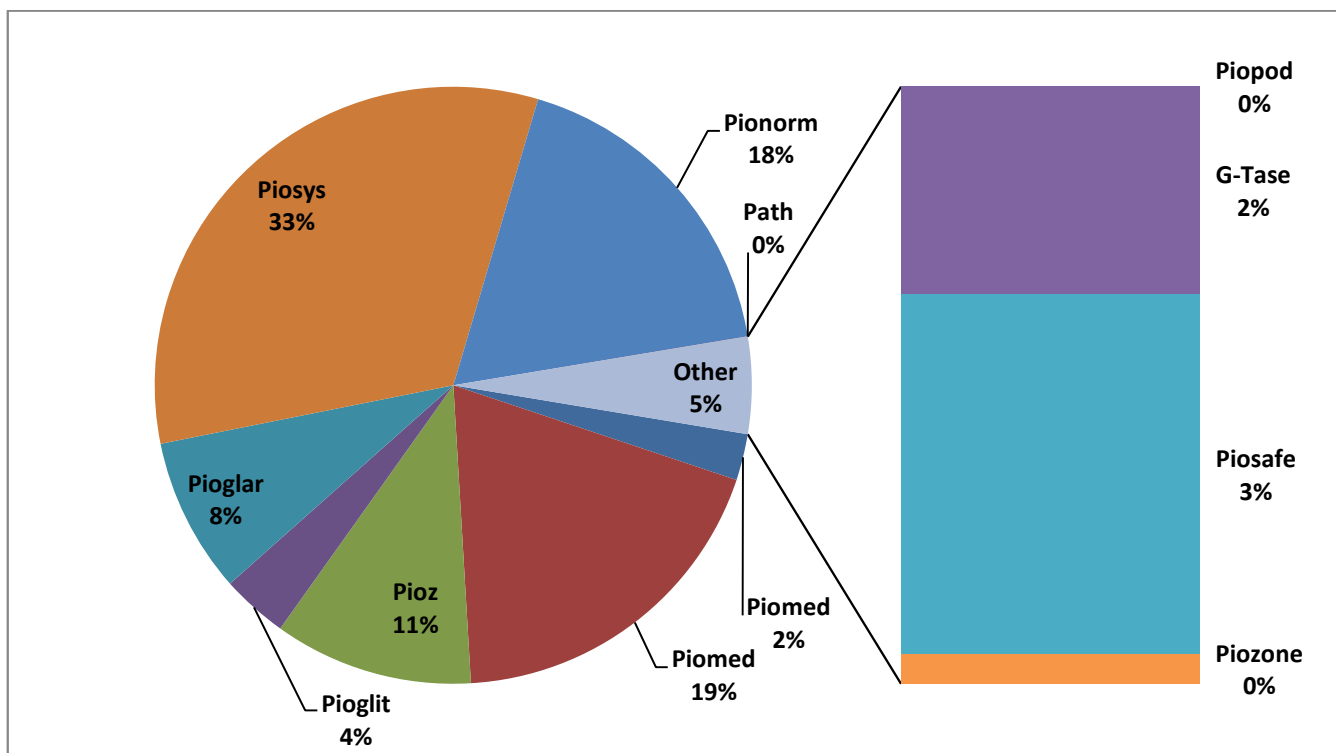**Figure-1:** Physicians opinion on different types of patients.

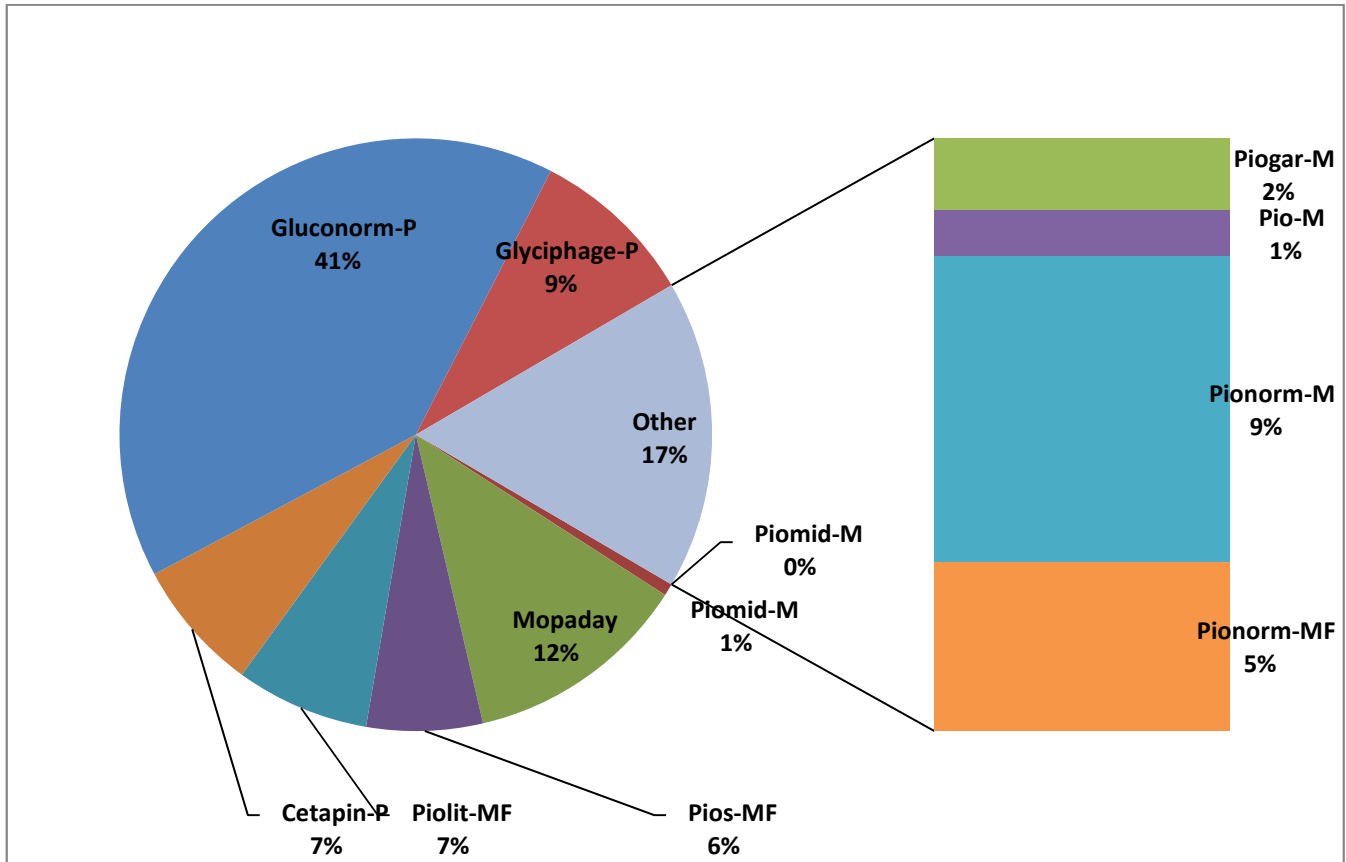**Figure-2:** Medical store's in charge report on branded products of pioglitazone only.

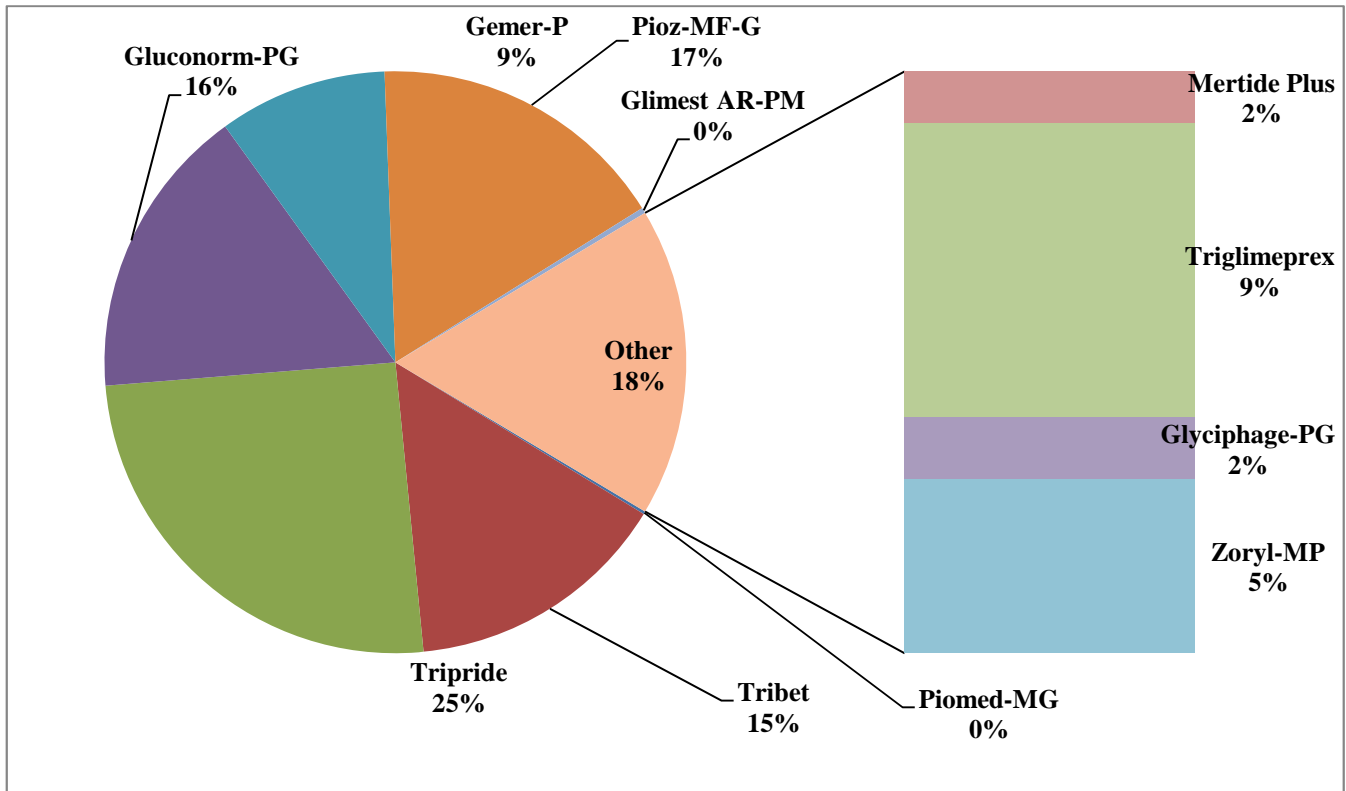**Figure-3:** Medical store's in charge report on branded products of pioglitazone with metformin.

Figure-4: Medical store's in charge report on branded products of pioglitazone, metformin and glimepride.

CONCLUSION

Making strategy to market pharmaceuticals and backing -up sales force is different than FMCG (Fast-moving consumer goods) and consumer durables. Conventional definition of buyer/consumer applies here with some modification because decision making, the ultimate point to tackle by marketing professionals is not in the hand of direct customers that pays for your product. It is interesting to categories customer here as primary customer and secondary customer. Physicians may be considered as primary customer (decision making) while the patient (buyer) as secondary customer. Immediate response of the product is given by physicians who have actually not used the product and the feedback is channelized through physicians to sales team to marketing team, of the patient. The possibilities of biased feedback and/or influenced for personal interest remains challenge in the case of pharmaceuticals. During the process of task we have extracted out that apart of price, availability and tolerability; clinical experience along with exposure to the particular brand plays an important role to launch and establish the same in market successfully. Conclusively, we can say that Piosys, Gluconorm-P and Gluconorm-PG were the brands of the pioglitazone only, pioglitazone & metformin and pioglitazone, metformin & glimepride, respectively categories which were in highest sale in the area of interest.

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