IMPACT OF PHARMACEUTICAL SALES REPRESENTATIVES ON PHYSICIAN PRESCRIPTION BEHAVIOUR

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in

Pharmaceutical Management

by

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Under the Supervision and Guidance of

Dr. Surya Prakash

2023

DECLARATION BY STUDENT

I hereby declare that this dissertation titled '**IMPACT OF PHARMACEUTICAL SALES REPRESENTATIVES ON PHYSICIAN PRESCRIPTION BEHAVIOUR'** is the bonafide record of my original research work. I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.

(Signature)

Name of Student: Tanvi Mukesh Shah

Date:

CERTIFICATE

This is to certify that dissertation titled **'IMPACT OF PHARMACEUTICAL SALES REPRESENTATIVES ON PHYSICIAN PRESCRIPTION BEHAVIOUR'** is a record of the research work undertaken by Tanvi Mukesh Shah in partial fulfillment of the requirements for the award of the degree of MBA PharmaceuticalManagement from the IIHMR University, Jaipur under my guidance and supervision and his/her approach to the research study has been sincere, scientific, and analytical.

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LIST OF ABBREVIATION

Abbreviation	Full Form
CAGR	Compound Annual Growth Rate
YoY	Year on Year
NLEM	New List of Essential Medicines
DPCO	Drug Price Control Order
AIDS	Acquired Immune Deficiency Syndrome
USFDA	US Food and Drug Administration
UCPMP	Uniform Code of Pharmaceuticals Marketing Practices
MR	Medical Representative
ABM	Area Business Manager
RBM	Regional Business Manager
MOHFW	Ministry of Health and Family Welfare
API	Active Pharmaceutical Ingredient
GDP	Gross Domestic Product
ATL	Above the line
BTL	Below the line
CME	Continuous Medical Education
GNP	Gross National Product
CSR	Corporate Social Responsibility
MPB	Medical Prescription Behaviour

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ABSTRACT

The connection between pharmaceutical sales representatives and doctors serves as the foundation for pharmacological marketing. Pharmaceutical businesses employ a variety of strategies to involve doctors and promote their products. The goal of these strategies is to provide the brand the most exposure possible in front of doctors and to imprint it on their minds. If the brand name is registered in the health care provider's unconscious mind. The thing of this exploration study is to determine whether or not pharmaceutical advertising strategies actually alter health care providers' prescription defining habits. Medical representative specifics, corporate social responsibility, keeps up with medical education, representation of the company's personal attire, Sponsorship, Pharmaceutical businesses' literature and reminder brochures, knowledge of a medical representative, customer relationship management and a medical camp, these are many of the promotional tools to promote brands to the doctors.

Self-administered structured questionnaires were used in the study, and data were gathered until the response rate reached the target sample size. Answers provided by medical professionals with various specialisations, including consultant physicians, general practitioners, diabetologists and endocrinologists. The research was carried out in Mumbai and Thane districts. The study includes a thorough investigation of which promotional technique had the greatest influence on doctors' prescribing behaviour. The multiple linear regression model that was employed to examine the theory. To examine the association between a pharmaceutical advertising tool and a doctor's prescription behaviour, regression analysis was performed. Data analysis shows that factors or marketing tools like medical representative detailing, samples, continuous medical educations, journal subscriptions, patient education program, professional appearance, digital marketing and promotions, literature and brochure, medical representatives' knowledge, and customer relationship management have a positive influence on medical practitioners' prescription behaviour. While factors or marketing strategies like promotional pricing, product demonstrations, sponsorship, and medical camps have little effect on getting doctors to write prescriptions.

Keywords: Drugs, Medical Representatives, Medicine Prescription Behaviour, Pharmaceutical Marketing

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CHAPTER 1: INTRODUCTION

1.1. THE GLOBAL PHARMACEUTICAL MARKET

Spending on health care is increasing globally. The CAGR for 60 nations is expected to rise from 2.9% from 2013 to 2017 to 5.4% between 2018 and 2022. The sale of prescription drugs is estimated to reach USD 900 billion globally in 2020 and 1.2 trillion USD by 2024.

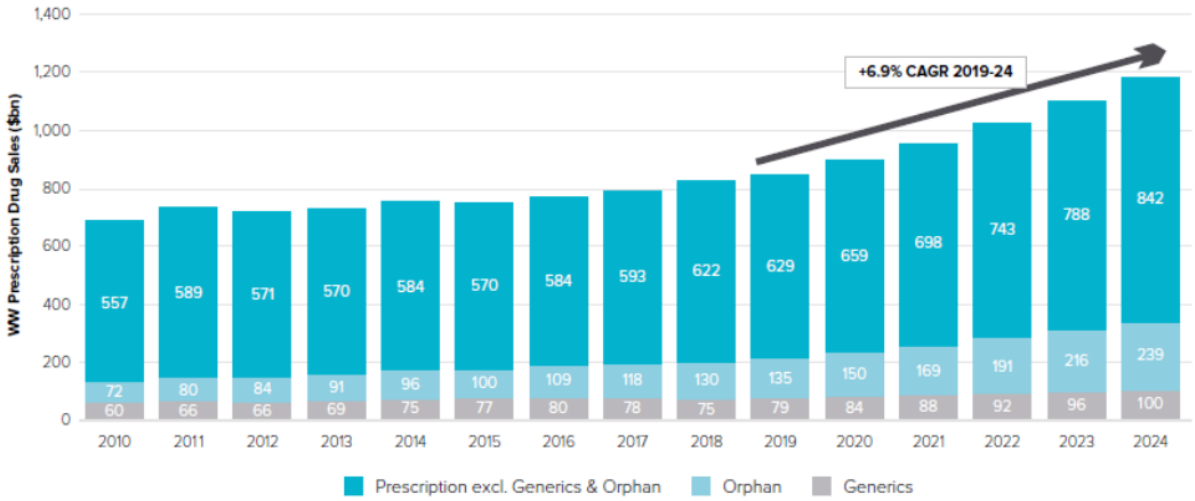


Fig.1.1.1. Global Trend in Prescription Drug Sales (2010-2024) [5]

Global pharmaceutical spending reaches around USD 1204.8 billion, according to IQVIA industry figures. Around 800 billion USD was donated by emerging nations to the total global investment, or 66%. With a CAGR of 5.7% and a volume of USD 485 billion, the US has a far larger total market than the Pharma emerging nations and the rest of the globe combined. Almost 60% of purchases made in the US are made at the start. Five major European nations- Germany, France, Italy, the UK, and Spain — contributes around 15% of the world's total pharmaceutical expenditures. Japan has the third- largest request after the US and the EU, with a volume value of nearby USD 86.4 billion, or 7% of global GDP. Following tyre 3, or 11.3%, the Indian Pharmaceutical request has recorded a worth of 20.4 billion USD with a CAGR of 11.2%.

The therapeutic sector is a different technique to assess the demand. With projected global sales of USD 29 billion in 2017–2024 and a high of USD 233 billion in 2024, oncology will continue to be a key area of healthcare. Immunosuppressants are expected to expand at the greatest

CAGR of 15.7 percent from 2017 to 2024, with dermatological medications leading the way (13 percent).

1.2. **THE INDIAN PHARMACEUTICAL MARKET**

Indian Pharma Market India is notorious for producing cheap vaccinations and general medicines and is the world's largest supplier of general medicines. The Indian medicinal sector has developed over time into a robust business, rising at a CAGR of 9.43% over the former nine times, and is presently ranked third in pharma affair by volume. Some of the vital sectors of the Indian medicinal business include general drugs, untoward medicines, bulk meds, vaccines, contract disquisition & manufacturing, biosimilars, and biologics. India is home to the most US FDA- biddable pharmaceutical product installations, with 500 API firms counting for around 8% of the global API assiduity.

Over 50% of the world's demand for different vaccines is met by the Indian medicinal assiduity, as is 40% of the US requests for general drugs and 25% of the UK requests for all medicines. A total of 10,000 product installations and 3,000 medicinal businesses makes up the domestic medicinal sector. India holds a important place in the world's pharma request. Presently, Indian pharmaceutical companies give further than 80% of the antiretroviral specifics demanded to treat AIDS across the world.

The generic medicines and affordable vaccinations produced by the Indian medicinal sector are well- known internationally. Indian Pharma has evolved over the times into a thriving industry and presently ranks third in pharmaceutical manufacturing by volume. India's pharmaceutical sector ranks 3rd encyclopedically in terms of volume and fourteenth encyclopedically in terms of value. Presently pharmaceutical industry makes up around 1.72% of the GDP of the nation.

According to a recent EY FICCI analysis, the India’s medicinal industry is prognosticated to reach USD 130 billion in value near the end of 2030 due to a rising agreement over the provision of new, innovative drugs to cases. In the meantime, it's prognosticated that the size of the worldwide request for pharmaceutical goods would surpass USD 1 trillion in 2023. The industry is largely competitive with the companies spending a significant quantum of their profit on marketing and deals elevations for their products and services. The spending on the marketing and deals elevations includes conditioning like advertising, deals force elevations and direct marketing.

According to the IPA report, the Indian Pharmaceutical industry spent roughly 2.2% (approx. USD 2.5 Bn) of its total deals profit on their marketing and promotional conditioning in the time 2019-20. Marketing and creation are essential to produce mindfulness and drive deals which also involves several conditionings done by the pharmaceutical companies that can impact due to the tradition and there's a need for ethical marketing practices in the market. The current medical size of the medical bias sector in India is considered to be USD 11 billion and its share in the global medical device request is estimated to be 1.5%. Indian pharma companies have a substantial share in the tradition request in the US and EU. The highest number of FDA-approved sites outside the United States is in India.

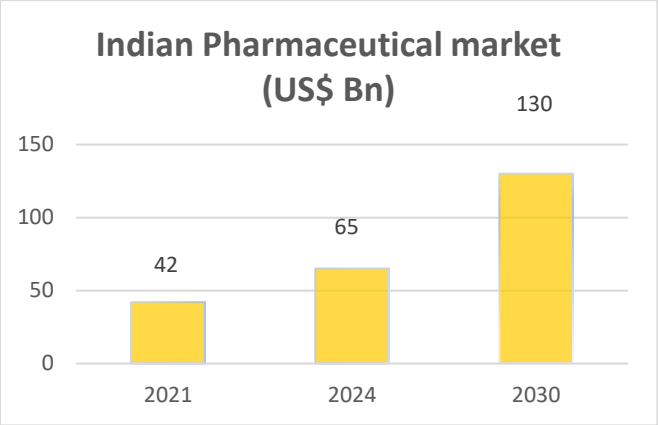
1.2.1. OVERVIEW OF INDIAN PHARMACEUTICAL MARKET

India's biotechnology assiduity comprises biopharmaceuticals, bio-services, bio-agriculture, bio-industry, and bioinformatics. The Indian biotechnology assiduity was valued at USD70.2 billion in 2020 and is anticipated to reach USD 150 billion by 2025. India's medical bias request stood at USD10.36 billion in FY20. The request is anticipated to increase at a CAGR of 37 from 2020 to 2025 to reach USD 50 billion.

As of August 2021, CARE It's estimated to develop at a periodic rate of 11% over the coming to reach further than USD 60 billion in value. According to estimates, India's medical device request is presently worth USD 11 billion, counting for 1.5% of the global request for these products. In both the US and the EU, traditional drug deals are dominated by Indian medicinal pots. India has the utmost FDA- approved shops outside of the US. The domestic request is anticipated to increase three times during the following ten times, according to the Indian Economic Survey 2021. The domestic medicinal assiduity in India was valued at USD 42 billion in 2021 and is projected to rise to USD 65 billion by 2024 and USD 120 – 130 billion by 2030.

Biopharmaceuticals, bio-services, bio-agriculture, bioindustry, and bioinformatics are all part of India's biotechnology sector. India is a prominent and developing player in the global medicinal assiduity. India is the biggest patron of general drugs in the world, contributing 20% of the total volume force and 60% of the demand for vaccines encyclopaedically. Worldwide, the pharmaceutical assiduity in India is valued USD 42 billion. The Indian medicinal request grew by 17.7% yearly in August 2021, over from 13.7% in July 2020. India Conditions &

Research predicts that the Indian medicinal request would induce over 12% YoY growth deals in FY 2022.



(Fig 1.2.1.- Indian Pharmaceutical market)

1.2.2. OPPORTUNITIES FOR INDIAN PHARMACEUTICAL MARKET

Indian pharmaceutical companies have several chances to accelerate their growth through expansion into new markets and product lines.

A. Government-funded health insurance programmes

Ayushman Bharat Yojana, a government financed national health protection programme, is thought to serve 10 crore disadvantaged households (about 50 crore people, or around 40% of the Indian population). As a result, more people would have access to health services and the availability of health insurance would expand. This is an opportunity for the business to provide accessible pharmaceuticals to India's underprivileged population.

B. **A large, highly skilled, and economically efficient workforce:**

In comparison to the about 17,000 pharmaceutical students enrolled in the American educational system, more than 2,25,000 chemists have graduated from the Indian educational system. The team is made up of highly skilled medical professionals who actively participate in clinical research and bring to it a wealth of knowledge. A knowledgeable, highly competent group of individuals working in the clinical research field from both academia and industry support it. Additionally, with a large patient pool at its disposal, India emerges as one of the most potential locations for clinical research. Indian businesses have a significant competitive edge thanks to labour cost efficiency.

C. Exports and global marketplaces:

As the sector strives to become the world's largest supplier by volume, the coming surge of expansion may be the expanding import to other major markets of the world. A new business model that is entering these areas might need to modify it in order to meet the demands of the regional market. Indian pharmaceutical businesses would be able to reach these markets with aid for government actions and commercial connections.

1.2.3. CHALLENGES FOR INDIAN PHARMACEUTICAL MARKET

A. Using intermediates and APIs only from marketplaces outside of the country:

China supplies around 80% of India's volume-based API needs, putting importers at risk of supply interruptions and unpredictably fluctuating pricing. China complies in large part with the API specifications. However, the API's eventuality has not been completely realised because of adequate services, similar as harmonious water and electric inventories, a lack of scale in" special profitable zones," and a lack of substantial state backing in the form of duty impulses, favourable licence renewals, and capital grants.

B. Significant "Out of Pocket" expenditure:

Due to several problems caused by the Indian Insurance Portion being designed for cases in IP rather than OP, it restricts access to medications. It is mostly because of the following important factors:

- Spending on public health is inadequate (just 1.1% of GDP).
- Poor healthcare infrastructure and system
- Limited availability of health insurance plans across the board in society

C. Regulatory Authorities:

New List of Essential Medicines (NLEM) and Drug Price Control Order (DPCO)

One of the vital tools of a nation's universal health care programme that delivers affordable, accessible, high- quality drug at all primary, secondary, and tertiary healthcare rates is the National Critical Medicinal Products List. In 1996, the first National Medicines Essential List for India was created and released. This list was subsequently streamlined in 2003.

The NPPA is an organisation of the Indian government that was established, among other goods, under the DPCO 1995 to set revised price of vindicated bulk specifics and specifics as well as to apply pricing and the vacuity of Medicinals in the nation. also, the business is in

charge of making up for guests who have been overrun by providers of controlled Medicinals. To maintain fair medicine pricing, it also keeps track of uncontrolled drug prices. On behalf of the Indian government, DPCO regulates medicine prices and compel pharmaceutical firms not to raise prices over a certain threshold. The fact that the income they generate for the majority of pharmaceutical companies are practically negligible and insufficient to support further investment was noted as a serious obstacle.

1.3. REGIONAL ANALYSIS OF SPENDING BY PHARMACEUTICAL COMPANIES IN SALES & MARKETING PROMOTIONS:

In order to advertise their goods and boost sales, pharmaceutical companies devote a sizeable percentage of their money to these operations. Depending on variables including market size, level of competition, and regulatory environment, spending on sales and marketing activities differs among regions. In this essay, we'll analyse regionally the amount of money pharmaceutical businesses spend on advertising and sales.

North America:

With more than 40% of worldwide pharmaceutical sales, North America is the biggest pharma market in the world. The pharmaceutical industry in this area will spend USD 89 billion on marketing and sales initiatives in 2020. The high level of competition and the expensive cost of pharmaceuticals in the area are the main drivers of spending. As the demand for specialised medications and biologics rises, it is anticipated that spending will continue to rise.

Europe:

With nearly 20% of all pharmaceutical sales occurring there, Europe is the second-biggest pharmaceutical market in the world. Pharma businesses in this region invest about USD 50 billion on marketing and sales initiatives. Due to the stricter regulatory environment and cheaper medicine prices, spending is somewhat lower than in North America. However, as the demand for specialised medications and biologics rises, spending is anticipated to rise.

Asia-Pacific:

With almost 25% of worldwide pharmaceutical sales, the Asia- Pacific region is the swift-growing pharmaceutical request in the world. Pharma businesses in this region invest over USD 26 billion on marketing and sales initiatives. Due to the lower cost of pharmaceuticals

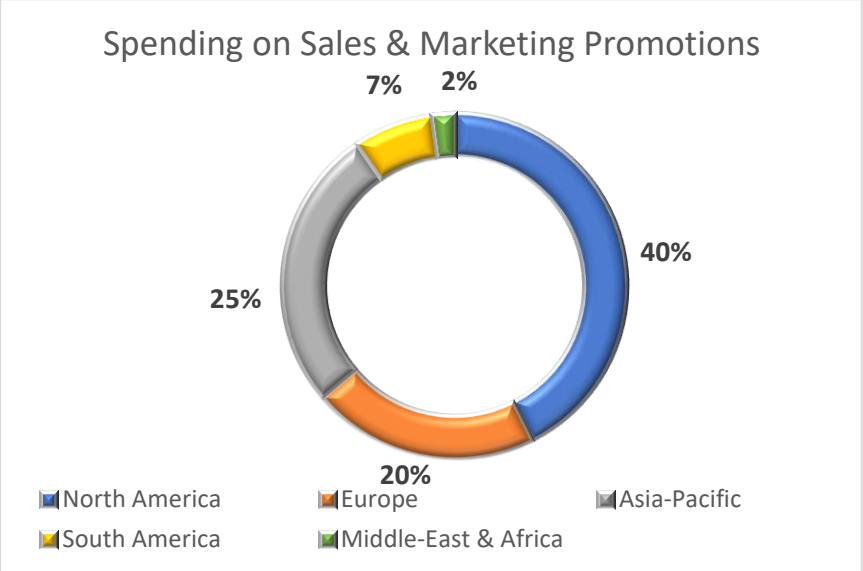
and the less intense competition, spending is generally lower in Asia than it is in North America and Europe. However, as the industry expands and there is a greater need for cutting-edge medications, spending is anticipated to rise.

South America:

Around 7% of all pharmaceutical sales worldwide are made in Latin America, which has a fast-expanding pharmaceutical sector. Pharma businesses in this region invest about USD 7 billion on marketing and sales initiatives. Because pharmaceuticals are less expensive and there is less competition, spending is generally lower than in other areas. However, as the industry expands and there is a greater need for cutting-edge medications, spending is anticipated to rise.

Middle East & Africa:

With only 2% of worldwide pharmaceutical sales, the Middle East and Africa area has a small but significant pharmaceutical business. Pharma businesses in this region invest about $2 billion on marketing and sales initiatives. Due to the less established market and cheaper prescription prices, spending is somewhat lower than in other areas. However, as the industry expands and there is a greater need for cutting-edge medications, spending is anticipated to rise.



(Fig 1.3.1. Spending on Sales and Marketing Promotions)

1.4. FACTORS INFLUENCING THE SPEND OF PHARMACEUTICAL COMPANIES ON SALES AND MARKETING PROMOTIONS:

The Pharmaceutical industry is highly competitive with the companies spending a significant amount of their revenue on marketing and sales promotions for their products and services. The spending on the marketing and sales promotions includes activities like advertising, sales force promotions and direct marketing. According to the IPA report 2021, the Indian Pharmaceutical industry spent approximately 2.2% (approx. 2.5Bn USD) of its total deals profit on their marketing and promotional conditioning in the time 2019- 20. Marketing and promotion are essential to create awareness and drive sales which also involves several activities done by the pharmaceutical companies that can impact due to the prescription behaviour and there is a need for ethical marketing practices in the industry.

There are several factors that influence the spending of the pharmaceutical companies on sales and marketing promotions such as-

1. **Product lifecycle:**

The launch phase of a new product is when marketing and sales efforts are most heavily invested in. As the product obtains market acceptance during the growth phase, spending declines. As the product reaches saturation during the maturity period, spending declines.

2. **Competition:**

Competition also affects how much is spent on marketing and sales promotions. Companies typically spend more money on marketing and sales promotions in a highly competitive market in an effort to set their products apart and increase market share.

3. **Regulatory Environment:**

The amount spent on marketing and sales promotions is also influenced by the regulatory environment. With stricter limitations on drug advertising and promotion, India's regulatory environment is getting more onerous. As a result, businesses are being more vigilant in their spending on marketing and sales promotion.

Prescriptions for medications, which involve a doctor's choice of a certain pharmaceutical company's products through their review process, are based on factors such the brand name, cost, and safety of the drug. Pharmaceutical marketing aims to influence doctors' MPB by

educating them about the advertised drugs. To engage with physicians, chemists and stockists, pharmaceutical companies appoint Medical Representatives (MR) and give them designated areas. MRs visit the doctors to promote their defining habits in favour of their companies.

When choosing a prescription, medical practitioners are allowed to calculate heavily on madam for information. The pretensions of pharmaceutical marketing are the same as those of other sectors to increase the association's profitability and request share by satisfying client prospects while taking the stylish interests of the brand into account. It's fairly simple to communicate a marketing communication to end druggies through ATL and BTL media communication tactics outside of the pharmaceutical sector.

The medical practitioner community, rather than the general public, serves as the primary clientele of medicinal pots, who do not serve the general public as their guests. Companies cannot promote their specifics through electronic and print media channels due to the strict regulations governing the pharmaceutical business. When compared to other industriousness, pharmaceutical marketing is fairly unique because the consumer is not a direct customer of the pharmaceutical sedulity; rather, a health care provider is a client or direct customer of the sedulity, and the case is a client of the health care providers and end user of the pharmaceutical products. As a result, medicinal pots target health care providers, and health care providers choose which specifics to give. As a result, pharmaceutical marketing styles are developed for medical interpreters rather than patient cases.

The pharma companies promote their drugs through various marketing and promotional exertion, analogous as furnishing free of cost samples to health care providers, giving precious and affordable gifts to health care providers, financing lectures and colloquies for specific hospitals and health care providers, paying for health care providers to attend conferences around the world, furnishing medical detailing, and supporting individual health care providers' continuous medical educations (CMEs). Thus, these marketing exertions have a considerable impact on the prescribing behaviour of health care providers, and health care providers define their medicine without a due cost and benefit analysis. Still, numerous studies demonstrated that the marketing exertion of the pharma sedulity don't impact the maturity of health care providers; rather, health care providers define medicines on the merit of the drug. There are also studies available that show there is a truly positive and significant effect of the pharmaceutical exertion on the health care provider's defining nature.

1.5. PHARMACEUTICAL SALES REPRESENTATIVES:

Pharmaceutical sales representative (PSRs) is employed by the pharmaceutical companies and distributors and are essential in educating doctors about prescription medications and influencing their prescribing practises. PSRs perform a very crucial role in the promotion and sales of prescription of drugs by giving doctors useful information about the most recent advances in pharmaceuticals and medical research. These representatives rely on their interpersonal skills and knowledge of the products they promote to sell to healthcare providers and influence them to prescribe their products to their patients. PSRs are not involved in the direct sale of the products to the patients, instead connect with the healthcare providers with the knowledge of drugs, treatments they need in order to provide their patients with the up to date & latest treatments to their patients.

Pharmaceutical marketing activities are concentrated to doctors on further over the recent many times. The Pharmaceutical companies borrow number of tactics similar as doctors- targeted elevations which involves free samples, journal announcements, published product literature (LBL), scientific substantiation and other aids that supports them to rise the acceptance and deals of their products. It's observed that 84% of the pharmaceutical marketing activities are directed towards doctors, as they're perceived to be the decision makers, the doorkeepers to the sales of products.

Physicians' prescribing nature is considerably motivated by the activities of pharma sales force. These reps are in charge of informing medical professionals about the advantages and characteristics of their products and flashing them. The conduct taken by pharmaceutical sales force and how they can affect prescription behaviour are enlisted below:

1. **Developing Connections with Doctors:**

Pharmaceutical sales agents frequently concentrate on forging connections with healthcare professionals in order to win their confidence and shape their prescribing behaviour. Reps can accomplish this by offering useful information, educational materials, and individualised communication. Representatives can portray their products as the best alternative for treating particular ailments by forming close relationships with doctors.

2. **Informing Customers About New Products:**

It is the duty of pharmaceutical sales agents to tell doctors as soon as new medications and treatments are made available. Representatives can help raise awareness and persuade doctors

to write prescriptions for these drugs by teaching them about their advantages and characteristics. Representatives can also give doctors clinical data and scientific proof of the effectiveness and safety of their products.

3. **Providing rewards and samples:**

Incentives and samples may be given to doctors by pharmaceutical sales reps to promote their goods. Samples give medical professionals the chance to test new goods and get acquainted with their characteristics and advantages. Physicians may be encouraged to prescribe particular medications by incentives like speaking engagements, educational opportunities, or cost-free training.

4. **Customising Marketing and Communication Strategies:**

Pharmaceutical sales force must have the capability to modify their marketing and communication tactics to suit the conditions and preferences of healthcare professionals. This entails getting apprehensive of the medical professional 's patient, areas of expertise, and tradition practises. Representatives can successfully convey the benefits of their products and raise the possibility that doctors will recommend them by customising their ways

5. **Ethical Advertising Techniques:**

Pharmaceutical sales representatives are also required to follow ethical marketing guidelines. When discussing the advantages and restrictions of their products, representatives must be open and truthful. They must not encourage the use of their products beyond the intended purpose, utilise any improper incentives, or engage in deceptive marketing.

1.6. PRESCRIPTION BEHAVIOUR PATTERNS OF PHYSICIANS:

Physicians' prescribing behaviour is defined by a variety of variables, including patient demands, remedial efficacity, cost- effectiveness, and safety considerations. Pharmaceutical businesses must comprehend these tendencies in order to produce successful marketing plans and boost deals. The health care professional's familiarity and experience with a certain medicine is one of the most important rudiments that affect prescription medicines that medical professionals are familiar with and have had success within the history are more likely to be specified. In order to duly vend their drugs to doctors, pharmaceutical companies

must make sure that their deals staff are well- trained and equipped. The medical background and state of the case are fresh factors that affect defining prescription. Drugs that effectively treat the patient's specific illness and have a favourable safety profile are more likely to be prescribed by doctors. To prove the effectiveness and safety of their products, pharmaceutical companies must perform clinical trials and produce evidence-based data.

Particularly in nations with a fee-for-service healthcare system, cost is a significant issue that affects prescription behaviour. To save money for their patients, doctors may decide to prescribe generic medications rather than more expensive branded ones. As a result, drug manufacturers must set competitive prices for their goods and offer financial incentives to doctors who endorse them. Finally, it is impossible to disregard the impact of pharmaceutical salespeople on prescription behaviour. Sales reps are crucial in educating physicians about their goods and recommending medications to them. Concerns regarding how these interactions may affect prescription behaviour and the need for ethical marketing techniques in the sector are nevertheless, developing.

Because drug promotion is crucial for generating interest in a product, pharmaceutical companies employ a variety of marketing techniques as drug promotion play a role in stimulating Doctors' behaviour in prescribing. With a focus on specialists and general practitioners, the proposed study investigates the pattern of prescription practise and key MR-related factors influencing doctors' drug prescription conduct in India.

1.7. FACTORS AFFECTING THE MPB:

1. **Early Prescription of New Drugs:**

Numerous new product launches are a defining characteristic of the pharmaceutical categories. For instance, from 1994 to 2003, on average, 41 entirely novel therapeutic compounds were introduced per year (IMS Health, 2009). The function of marketing communication for new products evolves through time, as demonstrated by *Narayanan et al.* They outlined a methodology in which marketing communications, such as details and doctor meetings, as well as doctors' cumulative usage experiences are used to inform doctors about the quality of new treatments. *Cosceilli and Shum* attributed the sluggish dissemination of a novel treatment in an established product category to risk-averse clinicians slowly learning about the drug's quality (only via patient feedback). Layton et al.'s findings also suggest that physicians view MRs as a significant source of information on the introduction of new medications.

2. **Regular Aspect:**

Another highly significant characteristic in habitual prescription behaviour is prescription loyalty, or the consistency of prescribing the same company's medications. This may result from the doctor's growing confidence in the pharmaceutical industry. Bednarik outlined the factors that affect and shape how people gain faith in medications. He proposed that doctors' faith in a certain medicine grows as a result of MRs' professional demeanor and communication skills. Furthermore, consistent product use coupled with positive experiences seems to be a precursor to trust in pharmaceuticals. The effectiveness of the medicine in repeated and habitual prescriptions is determined by the positive experience gained during the treatment phase.

3. **The price of the drug:**

Cost is a significant element that doctors believe influences their MPB. In their qualitative study carried out in the UK, Prosser & Walley discovered that doctors consider cost when prescribing medications. Another study's empirical investigation carried out in Israel came to the similar conclusion that medical professionals learn about medicine costs from pharmaceutical companies' marketing materials.

Pharmaceutical companies ensure frequent and periodic contact with the doctors by visiting them regularly through PSRs who provide the latest products and publications information to the doctors. These strategies include:

- Developing and maintaining personal relationship with doctors
- Promoting off-label use of products
- Identifying the prescribing habits and personal attributes of the doctors
- Handing over gifts, samples and invitations

1.8.OBJECTIVES OF THE STUDY

1. To identify the extent of exposure of physicians to PSRs and the nature and frequency of interactions between physicians and PSRs.
2. To examine the impact of PSRs on physician prescription behaviour and identify the aspects related to them that influence prescribing behaviour.
3. To understand the perceptions of physicians about the influence of PSRs on prescription behaviour and their attitudes towards PSR practices.
4. To determine the strategic marketing implications for pharmaceutical companies.

5. To identify the various tools of promoting the products used by pharmaceuticals and marketing.

1.9. SCOPE OF THE STUDY:

Pharmaceutical businesses devote over 24% of the company's earnings to promoting and marketing efforts at many levels, with wholesalers, retailers, and physicians. After production, marketing costs are the second-highest expense for the business. Therefore, return on marketing expenditure is essential to the development of the company. To achieve the maximum return on activity investment, choosing the right activity for the right doctor is crucial. The practitioner's specialty has an influence on the activity as well. Pharmaceutical marketers are always struggling to choose the best marketing initiatives to help their brand excel in the industry. The most recent study effectively directs marketers in choosing the best activity for their clients to increase brand awareness.

CHAPTER 2: REVIEW OF LITERATURE

Drug firms consequently regard interaction between a PCR and a doctor as an essential component of their marketing plan. According to data, 80–90% of doctors in the majority of nations receive regular visits from PCRs.[6] PCRs use a variety of strategies to build or maintain their connection with prescribers. Giving gifts is a widespread custom across a wide range of societies and professions. Every year, between USD12 and USD15 billion is spent on gifts and payments by pharmaceutical corporations. [7] [8]

Visits and gifts from PCRs might create unintentional business or conflict of interest ties with prescribers in addition to increasing prescription sales for particular goods. [9][10] Studies on the perceptions and attitudes of doctors reveal that while there is evidence that doctors acknowledge being affected, most doctors reject being swayed by the sales pitches of PSRs. Ironically, a lot of doctors think that their colleagues are susceptible to marketing even when they are not. [11] Despite this, research has revealed that many doctors are unable to distinguish between persuasive and factual data. Propositions from social psychology have tried to explain this circumstance. (12) Physicians are prone to cognitive conflict, tone- serving impulses, and a sense of annuity, as Sah and Fugh-Berman have skillfully explained. [13] [14] [15] Any presents that doctors accept on their own should be of little value and focus largely on helping patients. In light of this, presents such as books, simple dinners or lunch, and other items are permissible provided they have a true educational purpose. Cash should never be accepted as payment. Drug samples may be used for their own or household use as long as the usage does not obstruct patient access to the samples. [24]

The new UK publication, "How to Dance with Porcupines: Rules and Guidelines on Doctors' Relations with Drug Companies," draws attention to the intricate and potentially hazardous ties between medical professionals and pharmaceutical firms. Similar to the United States, a survey of United Kingdom general practitioners indicated that the majority of participants were aware that marketing strategies may affect their prescription decisions, but they were usually confident they would resist such pressure. Although medical practitioners questioned the pharmaceutical industry's neutrality, another survey of UK general practitioners revealed that nearly all had

interactions with PSRs and that the sector was the often-utilized source of data for assessing medications. Additionally, people who interacted with pharmaceutical reps more frequently were more likely to engage in behaviour that resulted in needless prescriptions.[27] [28] [29]

The link between pharmaceutical corporations and doctors has drawn a lot of attention, according to Campbell et al. (1), Moynihan, and Ahmed et al. [i4], and it stems from a conflict between the doctor's fiscal tone- interest and the ethical professional interest.

2.1. PHARMACEUTICAL MARKETING:

2.1.1. Role of Pharmaceutical marketing

An advertisement or other form of promotion for the sale of pharmaceuticals or medications is known as medical marketing or pharmaceutical marketing. Pharmaceutical marketing has come under fire for skewing doctors' recommendations. A different course of action is to

By expanding options for R & D investment and fastening it makes it more user-friendly, research and development may be used to improve customer well-being in the efficient marketing of medicines. The promotion of medicines is especially crucial since knowledge is crucial, highly specialized, and subject to fast change. To enable medical professionals to pay more focus to patients' requirements (i.e., willingness to pay), medication marketing is essential (and potentially unique). Customer promotion in this way is likely to enhance their welfare by increasing adherence to medications.

In order to influence or guide activities from manufacturer to patient, marketing is equally crucial. A pharmaceutical marketer must be knowledgeable about the various elements that make up the external environment, including the social, technical, ecological, & competitive environments, also the economic, regulatory, and competitive environments. The indicators that point to the direction the economic environment is taking include the growth rate of the gross national product (GNP), personal income, economic burden, loan rates, industrial growth rates, etc. A pharmaceutical company is impacted by the overall economic climate since there is a

direct correlation between the market's current economic conditions and the demand. Pharmaceutical marketing is crucial for understanding the supply and demand for pharmaceuticals. A select few demands are frequently mentioned as:

- Not good
- Absent and concealed.
- Decreasing
- Irregular and superior
- Extreme and irrational

For sound decision-making, pharmaceutical marketing also incorporates market research. The importance of marketing research in pharmaceutical marketing is discussed in the points below.

- Market analysis is a useful tool for decision-making.
- It's used to calculate request share, request features, and request eventuality.
- To probe the goods of socioeconomic change.
- Aids in the creation of both short- and long- term vaticinations.
- To evaluate the potential and marketability of new goods as well as to compare them to those of competitors.
- Aids in segmentation strategy development and the creation of antimicrobial marketing operations.
- Aids in the creation of pricing policies and price discrimination laws.
- Aids in the development of an efficient distribution plan

2.1.2. GLOBAL TREND IN PHARMACEUTICAL MARKETING

Pharmaceutical marketing has experienced a complete makeover thanks to AI- invested automatic machines, digital marketing, and e-prescription (telemedicine). The following global trends in pharmaceutical marketing shouldn't be disregarded:

a. **A CLEVER BLEND OF CHANNELS:**

Multiple channels are frequently used to access internet services, which is a significant tendency. The clever multi-channel strategy often changes the interactions amongst HCPs throughout time. Online access to health warnings and pharmacological information is available at all times. It results in increasingly specialized digital

solutions supplied by pharmaceutical goods, interactive data, and electronic sampling. A highly effective physician without a tablet digital display is not possible to be identified.

2. USING BIG TECHNOLOGY: THE MOBILE GENERATION:

The usage of mobile technology in the pharmaceutical market has significantly increased over the years. During the day, doctors may access all clinical knowledge on their cellphones. To check for any information or to seek the most recent sources, just press one button. It gives medical professionals the ability to concentrate on harder problems while leaving the basic ones to intelligent technology. As a result, customers may feel safer using considerably superior online pharmacy services.

3. **AI AND ML CANNOT BE IGNORED:**

Deep connections exist between machine learning, huge files, and artificial intelligence. Today, medical professionals use more interactive tools to discover rich, specialized data sets instantly. However, both the automated algorithm and every technological procedure need man-force. AI and ML are also related to but also exempt from any difficulties. Targeted multichannel marketing and value-driven care will be important.

4. SOCIAL NETWORKING SITES:

The global market for pharmaceutical products is quite broad, and they can supply quality material exactly wherever and whenever it is needed. Please be aware that patients are free to conduct personal medical research on any website. Undoubtedly, whether or not it is supported by science, people frequently believe what they hear. Social media and digital platforms are also better managed.

Pharmaceuticals are prohibited from participating in conversations in accordance with the FDA's current regulations and other restrictions. As a result, there are more data that are both untrustworthy and negative. It is crucial to consider how pharmaceutical businesses develop their brands and adhere to legal regulations. Additionally, an increasing number of companies with extensive analytics would be able to provide value.

2.1.3. INDIAN PERSPECTIVE OF PHARMACEUTICAL MARKETING

Due to fierce competition and the extraordinary rise of indigenous pharmaceutical producers, the Indian pharmaceutical sector is currently caught in a "self-destructing loop. " The" Positioning of Indian Pharmaceutical enterprises" illustrates how key

domestic businesses contend with their foreign counterparts in the Indian healthcare assiduity. Since the 1970s, the government has implemented a number of significant initiatives, including:

i) allowing domestic companies to provide generic versions of patented registered molecules, as opposed to their prior practice of repackaging external terminology.

ii) providing significant financial incentives and state grant help and support to local medicines; and

iii). Naturally, it has caused the majority of local pharma companies to pick up speed and quickly expand to claim a sizable market share.

The major fraction of pharmaceutical companies are presently expanding their product lines in order to vend their goods and thereby increase their suggestion, exaggerate the efficacity of their goods, ignore the contraindications, and minimize the adverse goods that have come commonplace. transnational pharmaceutical companies have been trying to capture colorful" living processes of drugs" in multitudinous anthropological exploration, away from many studies that concentrated critically on irruption- related issues. But because of the close connections between the formal and informal sector systems and the complexity of the pharmacological interconnections (68), numerous scholars were suitable to comprehend complexity in one dimension without comprehending the opposing one.

Understanding the pharmaceutical assiduity's marketing strategy and crucial players from a deals and marketing perspective is pivotal to comprehending pharmaceutical promotion. The MRs, the ABMs, and the RBMs are among the workers in the sales promotion. Also included in the manufacturing and distribution network outside of the company are end druggies including formulators, stockholders, druggists, doctors, and their cases. The rights of intermediaries, similar as apothecaries, attachment pots, and stock manufacturers, are grounded on a largely hierarchical system depending on their rate spending. The case and the doctor are independent realities; neither is an external nor a wheel- wheel, but rather a veritably vital cog. A doctor may choose a prescription drug for a case on the base of suggestions or symptoms of the case.

2.2. TYPES OF PROMOTIONAL ACTIVITIES

In general, two categories can be used to divide pharmaceutical activity. Patient-focused activities come first, followed by practice-focused activities. Patient education

films, illness dos and don'ts, and other patient-oriented activities are examples of activities that assist patients better comprehend a medical condition or prepare for treatment. In exchange, it helps the organizer firm acquire prescription support from a doctor, which benefits the doctor by increasing their patient pool. Patient-oriented operations include promotional pricing, sampling, medical camps, and patient education programmes. A doctor can improve their patient care by participating in practice-oriented activities including CMEs, workshops, conferences, journal subscriptions, and reading scientific literature, among others.

2.2.1. PROMOTIONAL TOOLS

a. MR detailing
b. Samples
c. Continuous Medical Education (CME)
d. Promotional Pricing
e. Patient Education Program
f. Product demonstration
g. Sponsorship
h. Journal Subscription
i. Medical Camps
j. Medical representatives' knowledge
k. Personal attire of the company representative
l. Customer Relationship management of pharmaceutical companies

2.3. RESEARCH GAP

Many scholars and decision-makers have been interested in pharmaceutical advertising and its effect on prescriptions. Studies that have already been conducted have emphasized the importance of various promotional strategies, including Client relationship management, sample, medical representative knowledge, continuous medical education, medical representative detailing, sample, commercial image, particular vesture of the MR, P.R. estimating, patient education, corporate social responsibility, digital marketing & literature, and scientific reminders regarding health care provider prescription habits & behavior. Many research has been done on patient education, digital marketing, medical representative particular vesture, or promotional

pricing. The bulk of studies have concentrated on advertising strategies like backing, medical representative knowledge, and continuing therapeutic education. Only many figures of exploration have concentrated on the effect of strategies on domestic prescription behavior and habits.

Government rules, a price ceiling, and the availability of branded generic drugs rather than cutting-edge or research items distinguish the Indian pharmaceutical business from other markets. The conclusions and observations provided by Europe and America's research are completely inappropriate to the Indian pharmaceutical industry since, contrasting the European & American markets, pharmaceutical product ads are prohibited in India. The tradition of Indian pharmaceutical firms to advertise their brand in front of doctors was quite unique from other nations as a result of the UCPMP rules and medication pricing regulation by DPCO. Another feature that sets the Indian pharmaceutical industry apart from those in other nations is branded generic products. Pharmaceutical businesses are experimenting with novel advertising strategies to maintain their company in such a cutthroat climate.

These findings deal with the practitioners of 4 distinct specialties (General Practitioner, Consultant Physician, Diabetologist and Endocrinologist) involved in Mumbai and Thane districts of Maharashtra. Mumbai and Thane being a pool territory for the pharmaceutical companies having their presence in every corner of the city. The presence of such a competitive environment among companies and also the availability of the country's top healthcare specialists, make these locations chosen to study the effect of pharmaceutical sales representatives on the Physicians Prescription Behavior.

CHAPTER 3: RESEARCH METHODOLOGY

3.1. RESEARCH OBJECTIVE:

- To identify the extent of exposure of physicians to PSRs and the nature and frequency of interactions between physicians and PSRs.
- To examine the effect of PSRs on GP recommending behaviour and identify the aspects related to them that influence prescribing behaviour.
- To explore the opinions of health care professionals about the effect of PSRs on prescribing behaviour and their attitudes towards PSR practices.
- To determine the strategic marketing implications for pharmaceutical companies.
- To classify the different marketing tools used by pharmaceuticals for product promotion.

3.2. RESEARCH DESIGN

The nature of this investigation is quantitative. For this research, the researcher used a informative survey research design. Through the use of a well-structured questionnaire, primary data was gathered. The focus of questionnaires used to gather primary data is on investigation, assessment, and survey. Additionally, rather than offering a subject a choice between two options when creating a questionnaire to assess their attitude towards a certain issue, researchers prefer to ask them how much they agree or disagree with the topic in order to eliminate socially acceptable replies. The current research design examines the effect of similar pharma company marketing efforts on physicians' prescription behaviour. A structured questionnaire and random sampling were both used in the procedure to obtain data. When creating "objective, designing method, selecting sample, and collecting data," thoughtful considerations were taken.

3.2.1. METHOD:

An unidentified survey was conducted to explore the prescription behavior of doctors. These target doctors were Consultant Physicians, General Practitioners, Diabetologists & Endocrinologists. The survey took place from April 15, 2023, to May 10, 2023.

3.2.2. DATA ANALYSIS:

Data was collected and compiled in excel. The percentage of each variable was calculated, and analysis was made.

3.3. STUDY POPULATION:

People make up the population because they have a characteristic that makes them unique compared to most other groups. The list of random sample units used to choose the model is the target population. Doctors from four distinct specialties are included in the survey: general practitioners, consulting physicians, diabetologists and endocrinologists. These specialisations were chosen because they account for 72% of the prescriptions and 70% of the healthcare providers in India, respectively. As a result, for the research, general practitioners, consulting physicians, dentists, paediatricians, and gynaecologists were selected. In India, generalist physicians make up 43% of the medical workforce while specialists make up 57%.

3.4. THEORITICAL FRAMEWORK:

Recently, the area of marketing has grown and gained more significance as one of any organization or company's most crucial operations. Pharmaceutical marketing appears to be the advertising industry or just the distribution of drugs or medicines. Indian pharmaceutical businesses prioritize innovation and marketing above spending money on research and development. Upto 10% of pharmaceutical production businesses invest in advertisement, with details being the greatest common promotional tool. Pharmaceutical companies spend a lot of funds on marketing and promotion.

The linked research made suggestions on how these effects may have an impact on how doctors make prescriptions in order to explain how some factors that affect decision-making and practise may also have an impact on those behaviours. The aspects that influence have been chosen which are MR specifying, promotional pricing, samples, continuous medical education, product demo, sponsorship, journal subscriptions, medical camp, patient education programme, personal attire of company representatives, MR knowledge, and customer relationships. These factors have been based on the literature that is currently available. Pharmaceutical company management, which directly impacts doctors' prescription behavior.

CHAPTER 4

4.1. CHARACTERISTICS OF THE RESPONDENTS

A total of 220 online survey forms were distributed among the doctors, of which 161 (73.18%) responses were achieved. The questionnaire was distributed among the specific doctor class only and was approached accordingly.

The characteristics of the respondents are as follows:

Table 4.1.1 Characteristics of respondents

Characteristics	**n (%)**
Gender (n=161)	
Male	117 (72.7)
Female	44 (27.3)

4.1.1 FREQUENCY OF GENDER PATTERN

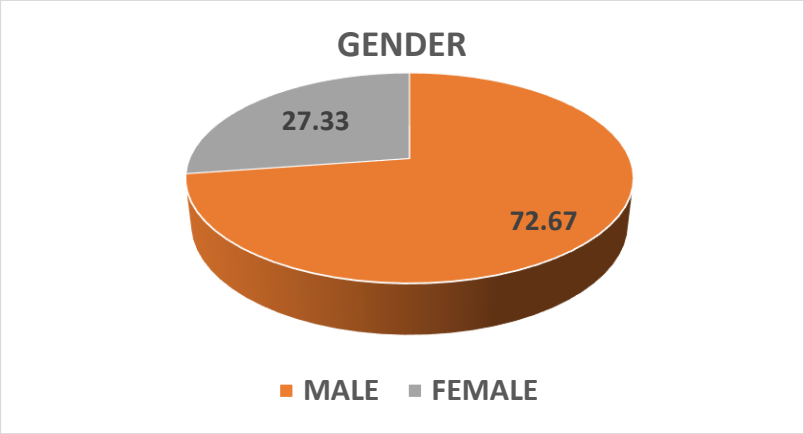


Fig. 4.1.1. Frequency of Gender Pattern

Out of total responses received more than two-third of the respondents were males. 72.67% were Males and 27.33% (n=44) were females. The Female doctors were visited less frequently as compared to male doctors.

4.1.2. FREQUENCY OF PRACTICE SPECIALTY

Specialty	
Consultant Physician	63 (39.13)
General Practitioner	41 (25.5)
Diabetologist	39 (24.2)
Endocrinologist	18 (11.2)

Table 4.1.2. Frequency of Practice Specialty

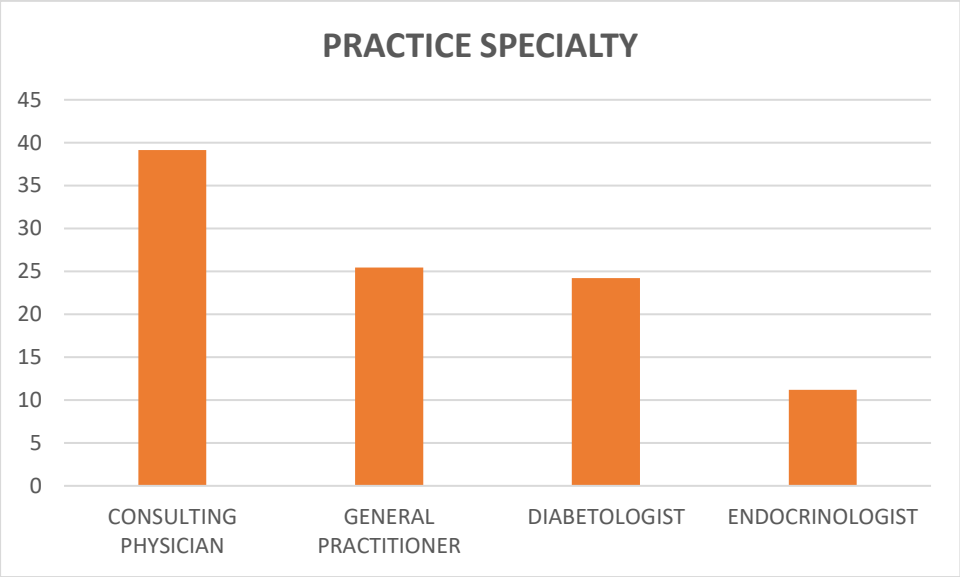


Fig. 4.1.2. Frequency of Practice Specialty

Figure depicts, of the 161 respondents,

- Consultant Physician: (n= 63) 39.13%
- General Practitioner: (n= 41) 25.5%
- Diabetologist: (n= 39) 24.2%
- Endocrinologist: (n= 18) 11.2%

4.1.3. PRACTICE EXPERIENCE

This part presents the Practicing experience of the respondents obtained from the survey conducted & the outcomes are as follows:

Table 4.1.3. Practice Experience (Years)

Experience in Years	N	%
0-5 Years	37	23
5-10 Years	52	32.3
10-15 Years	43	26.7
MORE THAN 15 Years	29	18

Fig. 4.1.3. Frequency of Experience (Years)

4.2. ACTIVITIES BY PHARMACEUTICAL COMPANIES

Many physicians reject pharmaceutical industry initiatives because they don't want to associate their names with any businesses. Based on a poll, the amusing practices of pharmaceutical businesses have been examined in this area; the findings are displayed below:

		N	%
Valid	Yes	152	94.5
	No	9	5.5
	Total	161	100

Table. 4.2. Activities by Pharmaceutical companies

It can be interpreted from the table that maximum of the respondents (94.5%) entertains events by the pharmaceutical companies however only 5.5% respondents do not entertain any activities by the pharmaceutical companies.

4.3. PREFERENCES OF ACTIVITIES PERFORMED:

Activities performed by pharmaceutical companies as promoting their products and brands are of 2 types: first being Patient-oriented activities and second, Practice-oriented.

Patient-oriented activities can be termed as activities that play a role in helping patients recognize a disease condition or for better ailment. It includes patient instruction vids, dos & don’ts of disorder etc. Such a form of act helps the health care provider to serve the requirement of their patient and in turn provides support from the doctor with respect to prescription generation for the company and its brands. Practice-oriented activities are those that help the doctors to update their skill for better patient care. It includes CMEs, round table conferences, seminars, workshops, etc. The following table shows results from the survey based on the preferences of activities performed for the doctors.

Table 4.3. Preference of Activities performed.

		N	%
Valid	Patient-oriented	124	77
	Practice-oriented	37	23
	Total	161	100

4.4. IMPACT OF SPECIALTY ON ACTIVITIES

To understand the effect of promotional conditioning on each specialty replier, the mean score of all exertion is considered. The average grade scale is used to evaluate the impact of colorful conditioning for each specialty.

Table 4.4. Impact of Specialty on Activities

Name of Activity	Consultant Physician	General Practitioner	Diabetologist	Endocrinologist
Medical Representative detailing	5.03	5.12	5.05	5.08
Samples	4.72	4.81	4.85	4.82
Continuous Medical Education (CME)	5.20	5.06	5.11	5.13
Promotional Pricing	4.32	4.46	4.31	4.33
Patient Education Programs	4.35	4.37	4.29	4.32
Product demonstration	4.89	4.85	4.79	4.81
Sponsorship	5.44	5.50	5.47	5.57
Journal Subscription	4.45	4.54	4.61	4.52
Medical Camps	4.91	4.83	4.83	4.85
Medical Representatives knowledge	5.31	5.28	5.22	5.17
Personal attire of the company representative	4.70	4.76	4.70	4.52
Customer Relationship Management of	5.77	5.72	5.69	5.65

pharmaceutical companies				

4.4.1. SPECIALTY: CONSULTANT PHYSICIAN

At this level, when different promotional tools were compared it was observed that among all the activities Customer Relationship Management was the most preferred activity by the consultant physicians. Following that, Sponsorships, CME programs, MR detailing, Product demo, Medical Camps, Samples, Personal attire of the medical representative, Patient Education programmes and lastly Promotional Pricing.

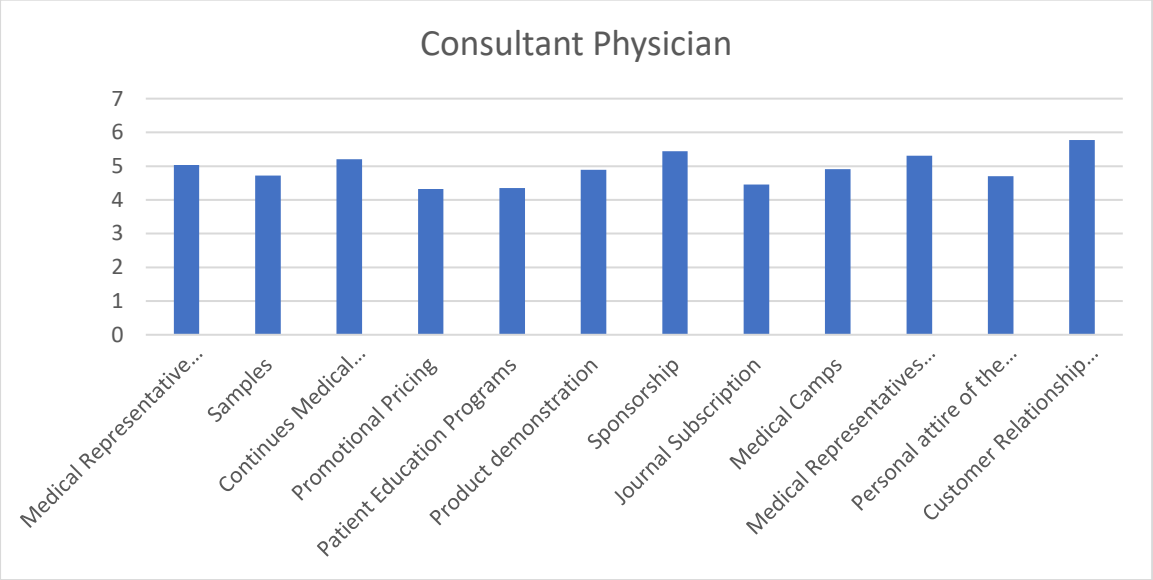


Fig. 4.4.1. Impact of promotional activities on Consultant Physicians

4.4.2. SPECIALTY: GENERAL PRACTITIONERS

When Promotional tools at General Practitioner level were compared, it was observed that among all the activities Customer Relationship Management was the most preferred activity by the consultant physicians. Following that, Sponsorships, Continuous Medical Education programs, Medical Representative detailing, Medical Camps, Product demonstration, Samples, Personal Attire of the company representative, Journal Subscription, Patient Education programmes and lastly Promotional Pricing.

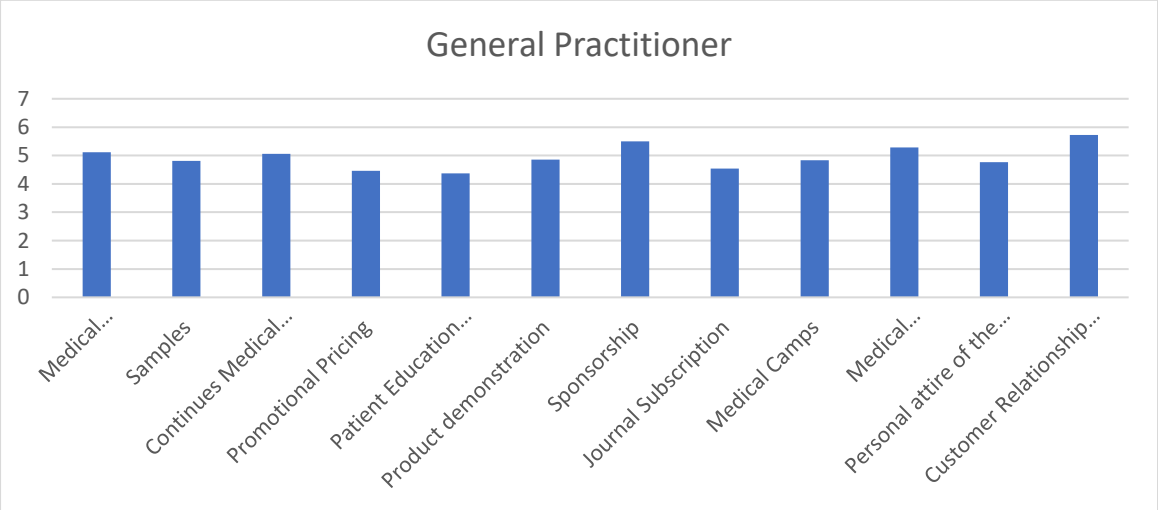


Fig. 4.4.2. Impact of promotional activities on General Practitioners

4.4.3. SPECIALTY: DIABETOLOGIST

It can be seen from the figures that if the firms want a greater number of prescriptions and their support for their brands then they have to majorly focus on the Customer Relationship Management and Sponsorship kind of activities.

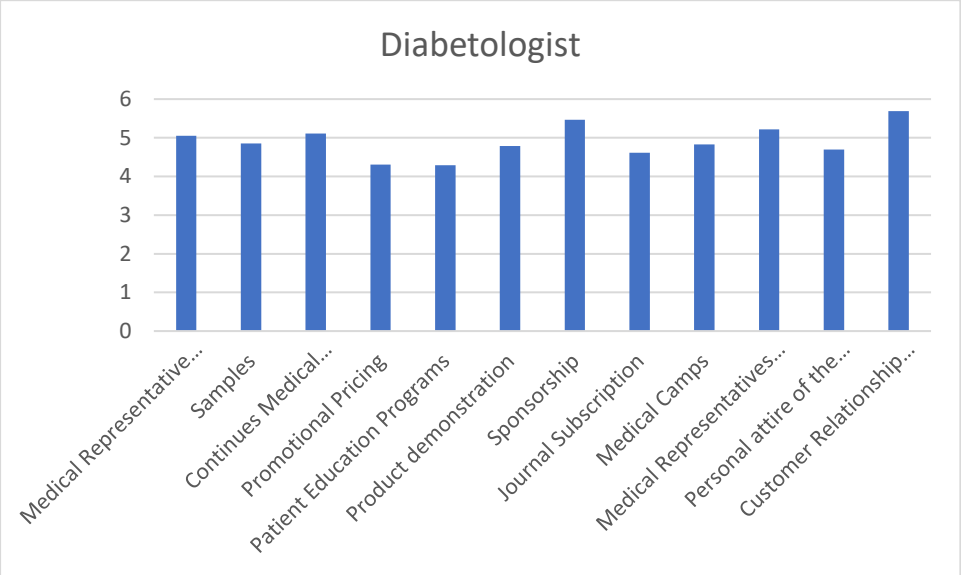


Fig. 4.4.3. Impact of promotional activities on Diabetologist

4.4.4. SPECIALTY: ENDOCRINOLOGIST

At the Endocrinologist level, the most important activity is the Customer relationship management trailed by the Sponsorship, MR Knowledge, CMEs, their detailing of the product, Samples, Medical Camps, Personal attire of the company representatives, Subscription, Patient Education programmes and lastly Promotional Pricing.

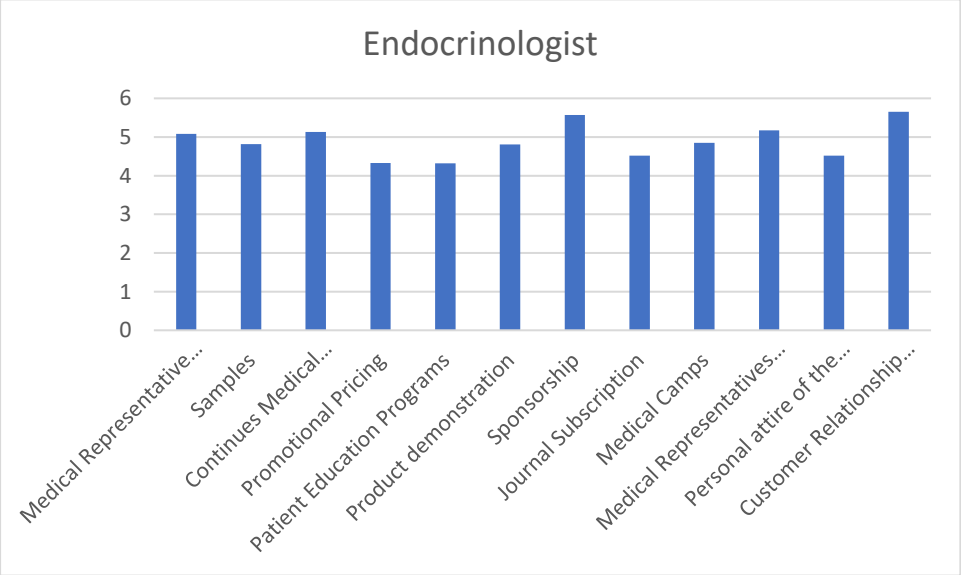


Fig. 4.4.4. Impact of promotional activities on Endocrinologists

The impact of different promotional conditioning on specialty is depicted infig.4.4.1. - 4.4.4. It signifies that CRM is the most poignant exertion that determines the prescription of the health care provider and the least one is the promotional pricing.

CHAPTER 5: FINDINGS, FUTURE SCOPE

5.1. FINDING WITH RESPECT TO OBJECTIVE

Contrary to FMCG, which facilitates pharmaceutical businesses to accurately monitor ROI, pharmaceutical marketing is more akin to personal marketing. It is impossible to calculate the ROI of an FMCG campaign, while pharmaceutical businesses can calculate the ROI of even a single doctor's visit. The firms' main goal is to maximize their ROI in terms of prescriptions from the hired physicians. The question of which investment in doctors will provide the greatest return on investment, however, is one that pharmaceutical corporations always wrestle with. By identifying the promotional strategies that had the greatest influence on prescription behaviour, the current study aimed to meet the needs of the pharmaceutical sector.

The Study was done to understand 3 main objectives.

1. To investigate the impact of PSRs on physician prescribing behaviour and identify the aspects related to them that influence prescribing behaviour.
2. To explore the experiences of health care professionals about the influence of PSRs on prescribing behaviour and their attitudes towards PSR practices.
3. To classify the different product promotional tools used by pharmaceutical companies.

For the benefit of patients, the fusion of science and technology will provide new opportunities in the pharmaceutical and healthcare industries. Customer services, gifts, and doctor involvement initiatives are the main driving forces behind the Indian pharmaceutical sector. The pharmaceutical industry is shifting away from gift-giving and customer service-based short-term promotions and towards scientific and technologically based promotion.

Currently, businesses are switching from a focus on customer satisfaction to one on customer joy, and the pharmaceutical sector only relies on physicians and other highly qualified people. Just being satisfied is insufficient to satisfy doctors; businesses must strive to enchant their clients in order to maximise prescription revenue. The literature analysis also details the many strategies pharma corporations employ to reach out to doctors. Through a thorough analysis of secondary data, the researcher was able to pinpoint 12 such strategies, including MR detailing, promotional pricing, patient education programmes, sampling, CME, personal representative

attire, and product demonstrations etc. With the aforesaid promotional methods in mind, a systematic questionnaire was created to assess their impact on doctors' prescribing behaviour.

The analysis of the data obtained from the survey shows that:

1. **MEDICAL REPRESENTATIVES DETAILING:**

Product Detailing is a form of personal selling that falls under the umbrella of direct promoting for MR. To persuade a doctor to prescribe their brand, medical representatives explain the brand in depth, examine the scientific aspects, and address the doctor's question with the use of graphic aids. The results of this findings demonstrate that a medical representative may persuade a doctor to recommend promoted goods by giving them clear, scientifically supported information regarding such companies. on the poll, 88% of doctors approved that pharma firms must appropriately train reps on the specifics of brand and product expertise. Pharmaceutical companies should spend in educating medical representatives to increase their scientific and product understanding so they can communicate with doctors more effectively, which will help doctors remember the brand while prescribing the medicines.

2. **CONTINUOUS MEDICAL EDUCATION:**

The medical community may hone their skills by learning about the cutting-edge, forthcoming, and new aspects of their field through Continuous Medical Education (CME). According to the findings, doctors' prescription behaviour and ongoing medical education are positively correlated. 91% of physicians concurred that CME enhances their scientific understanding and modifies their prescription habits. The opportunity to learn about a new chemical, novel drug application, or novel indication is provided via continuing medical education for doctors. By branding the location, CME enables the organiser firm to get their name in front of doctors. Pharmaceutical corporations can gain doctors' attention by setting up CMEs for a certain brand that results in a prescription. Additionally, the pharmaceutical industry has established a brand-new CME idea called webcast, in which national or worldwide KOLs address the listeners via digital media. The webcast does not need participants to be present physically at the CME location; instead, they may acquire the skills from the KOL at their home.

3. **MEDICAL CAMPS:**

Many pharmaceutical firms organised free fitness check-up camps or medical camps where patients are offered free diagnostic tests as part of their patient care campaigns. The results

disproved the theory that there was a greater likelihood of receiving a doctor's prescription at the sample and diagnostic clinic. Medical camps with physicians may assist medical reps develop a rapport with physicians, but they might not be able to turn that rapport into a prescription. According to data, doctors typically recommend their own brands rather than those sponsored by camps. In the short term, results do not indicate a favourable association between medical camp and medical practitioner's prescription support, while it may have a positive influence in the long run.

4. **CUSTOMER RELATIONSHIP MANAGEMENT:**

In order to communicate with its customers and increase their lifetime worth to the business, a corporation uses customer relationship management (CRM). The research confirms the association between pharmaceutical industry customer relationship management and its influence on physicians' prescribing behaviour. Pharma businesses excel at customer relationship management, according to 98% of doctors, and this changes prescription practises. The modern period is one of customised activities, even though pharmaceutical operations are customer centric. Pharmaceutical firms work to pinpoint each patient's unique medical needs and provide a personalised treatment plan to meet those needs. As previously noted, it is more about customer joy than it is about customer contentment. Pharmaceutical firms must recognise the specific scientific needs of particular doctors and work to meet those needs while staying within the UCPMP criteria in order to please consumers and receive the best return on investment from those doctors.

5. **PROMOTIONAL PRICING:**

Promotional pricing is a contentious issue. Numerous authors have noted that a low pricing strategy is typically unsuccessful because doctors frequently are unaware of the relative and absolute costs of pharmaceuticals. When it comes to issues with patient conditions and product efficacy, drug cost sensitivity often comes in second. Additionally, some writers support promotional pricing. According to the results of the current investigation, price reductions might not increase prescription support. The idea that the cheaper a treatment is, the more likely it is to be prescribed was disproved. In the tender/institute business, promotional price can be more accepted, but not for the Rx-based sales. The research shows that using promotional pricing as the primary method of promoting a brand.

6. **SAMPLES:**

Offering fast treatment, identifying the first side effects, adjusting medicine doses before the patient completes full treatment, paying for patients' medications for abstinence, and permitting patients to use the proper medications are all advantages of sampling. The assumption that the likelihood of receiving prescription support from the doctor increases with the number of trial packets submitted to the medical practitioner was accepted, confirming the constructive relationship between sampling and physician prescription support. Only 2% of medical practitioners dispute the association between samples and prescription behaviour, whereas 75% of medical practitioners accept that samples influence their prescribing decisions and 23% were indifferent. One of the reasons samplings has a favourable effect is that it may remind the medical practitioner of the brand because it is on his or her writing desk. Therefore, pharmaceutical businesses may find that large sampling is the best option for a freshly introduced or unproven brand.

7. PRODUCT DEMONSTRATION:

The right use of pharmaceutical items is ensured through product demonstration, which is crucial to achieving the intended effect. The doctor, nursing staff, or pharmaceutical medical professional must properly demonstrate product usage to the patient in order to assure proper product usage for the intended activity. The evidence does not support the claim that a strong product presentation increases the likelihood of brand memory when prescribing medication. Most of the time, physicians don't give a medical representative enough time to demonstrate a product. This might be because they are familiar with it or don't want to test any unusual products. Although product demonstrations for innovative medicines may be beneficial, their use appears to be fairly restricted.

8. SPONSORSHIP:

Sponsorship can take many different forms, including sponsorship at drug company conferences, funding for travel costs to conventions, sponsorship in the way of expensive personal gifts or medical equipment, funding for in-person meetings with doctors. Another technique for promoting sponsorship is to pay for the clinical research. The beneficial impact of sponsorship on the clinician's prescribing habit has been supported by several research. The recent research refutes the theory that brand sponsorship influences doctors' brand loyalty, which was rejected. The main cause might be that doctors are reluctant to discuss their interactions with pharmaceutical corporations in front of a third party (researcher).

According to UCPMP guidelines, it is illegal to receive any gift or material from firms worth at more than USD 1,000. A doctor risk losing their licence to practise medicine if they are discovered to have any kind of association with a pharmaceutical business. Doctors had given an ideal response instead of the real one because of this anxiety. As a consequence, according to the findings of the current study, brand loyalty among doctors is not influenced by sponsorship. In other words, we may also draw the conclusion that the doctor might start writing their brand if any other firm offers better sponsorship. Therefore, sponsorship is not the best promotional strategy to win the doctor's brand loyalty.

9. SUBSCRIPTION:

The best approach to give doctors reliable research and current medical trends is through journal subscriptions. Many pharmaceutical firms offer doctors a full journal membership or the entire text of an article related to their advertised brand. The data investigation supports the association between journal subscription and the impact on doctors' prescribing practises. According to 68% of doctors, changing prescription practises may be influenced by the most recent scientific update published in journals. By offering doctors supportive papers on a brand or molecule from well-known journals, you may persuade them to write a certain chemical or brand. Pharmaceutical firms can share papers for their recently released molecules and fixed-dose combinations as well as to highlight the novel applications and supporting information for previously released molecules. It helps to boost the confidence of the prescribers while prescribing the brand to the patient.

10. PATIENT EDUCATION PROGRAM:

Pharmaceutical firms' patient education initiatives aid in raising patient knowledge of illness problems and boosting the number of patients seeking the marketed medication.

The association between patient education programmes offered by pharmaceutical corporations and doctors' prescribing practises was validated by a meta-analysis of 47 research. The results of the present investigation are consistent with the notion that doctors like brands that offer greater patient education. An effective patient education programme aids in raising patients' knowledge of when to see a medical practitioner or how to preserve quality of life while dealing with a chronic disorder. Fighting medical issues that can draw more patients through word-of-mouth advertising helps to enhance patient trust in doctors. With the help of these programs, the pharmaceutical companies can demand prescription of their brands from the doctors.

11. PERSONAL ATTIRE OF MEDICAL REPRESENTATIVES:

Medical representatives should dress professionally and attractively; it's crucial to create a favourable first impression of medical representatives and the firm in the thoughts of doctors. Empirical evidence demonstrates that attire may directly affect intent.

According to a literature analysis, service contact professionals who are appropriately attired help to increase customer satisfaction and the willingness to purchase services from the organisation. The claim that a representative's personal appearance affects how well the company is perceived by a doctor was accepted, and thus verifies the theory that a representative's personal appearance has an influence on how well a doctor perceives the company.

According to 69% of doctors, medical representatives' personal clothing catches their attention. In India, a medical representative is recognised by their formal attire, tie, and immaculate appearance. In this setting, doctors are willing to treat MR. As they do not wish to harm the character that they've established in health care providers' studies through medical representative nature or wardrobe, transnational medicinal pots and top- hierarchical Indian medicinal firms have precisely trained their MRs on the particular dressing element. The physical appearance of MR should also be improved by small and mid-cap pharmaceutical firms if they wish to win over doctors and gain widespread recognition for their brands.

12. KNOWLEDGE OF MEDICAL REPRESENTATIVES:

Knowledge of medical representatives is crucial for better and more fruitful discussions in clinics. The key component of pharmaceutical marketing is the medical representative, who has to be well-versed in medicine to engage doctors in productive dialogue. For a better in-clinic conversation, the majority of pharmaceutical firms have a section solely dedicated to teaching medical representatives about the therapeutic areas, illness conditions, and advantages of brands. A clinician's focus on the pharmaceutical company's reputation is cast in doubt by the medical representative's lack of scientific expertise regarding the brand or therapeutic area. Most MNCs and top-tier Indian pharmaceutical firms-imposed admission restrictions on MRs with Bachelors in Pharma or at least a science degree. The recent study lends credence to the idea that doctors value a representative's thorough product knowledge. 90% of doctors concurred that having access to medical representative knowledge is crucial to influencing their prescription practises. As opposed to an MR with insufficient medical or product understanding, a medical representative with solid product knowledge may persuade doctors

of the benefits of their brand more simply. Pharmaceutical companies should invest in the scientific and product expertise of their medical representatives in order to strengthen their interactions with physicians. This will assist physicians remember the brand when issuing medicines.

5.2. SCOPE FOR FUTURE:

Every single attempt made by drug corporations to promote their product or brand as being recommended by doctors is essential to the public's widespread acceptance and usage of medications. In order for medications to be delivered at the appropriate time, at the right locality, and at the right cost, the connection between health care professionals and pharmaceutical corporations should be ethical in theory and financially driven. The impact of pharmaceutical marketing tools is a large topic of research, and the current study only looks at it from the standpoint of a doctor.

CHAPTER 6: CONCLUSION

This study's findings suggest that to varied degrees, pharmaceutical marketing strategies have a favourable impact on clinicians' prescribing habits and behaviours. The prescriber's behaviour might be affected by pharmacological actions that are both practice-oriented and patient-oriented. Pharmaceutical businesses can increase the number of prescriptions they receive from targeted doctors by engaging in activities including samples, CMEs, journal subscriptions, CSR activities, patient education programs, digital marketing, literature. A few staff excellence initiatives, including product demonstrations, medical representative personal appearance, and salesforce expertise, are also assisting pharmaceutical companies in changing how doctors prescribe. Companies may create equity in the minds of doctors by developing long-term relationships with them and having a strong market presence. This equity can then be further monetized via different promotional initiatives.

The relationship between MRs and doctors affects activity efficacy and ROI. While other studies have demonstrated the efficacy of a few promotional strategies, such as special pricing, product demonstrations, sponsorship, and medical camps, the current study does not demonstrate their efficacy in influencing prescription behaviour. The pharmaceutical sector should plan them in accordance with consumer demand and market trends.

Government guidelines and regulations encourage pharmaceutical corporations to market pharmaceuticals in an ethical manner; in India, the UCPMP is already in place, but stringent implementation and supervising are needed to restrict the unethical practices to make the drug available to end-users at economical prices.

The following is a summary of the potential research areas:

1. Since the current study only looked at how drug promotion tools affected prescription-only medications, a separate investigation into how such tools affected over-the-counter (OTC) or non-prescription medications may be done.
2. The demographic characteristics of the respondents, such as their age, gender, religion, socioeconomic level, etc., were not considered in the current study. These elements could have an impact on the clinician's tendency to prescribe. To determine the impact of promotional tools on

doctors' prescription behaviours with regard to demographic characteristics, a second research might be carried out.

3. Research may also be done to include additional districts in Maharashtra or the entirety of India. This study was conducted in the major cities of Maharashtra.
4. The current study only looks at how marketing strategies of businesses affect how allopathic medicine is practiced by businesses; however, another study may be undertaken to look at how marketing strategies affect Ayurvedic, homoeopathic, or Unani doctors.
5. This study will only change the marketing landscape for a small group of stockholders, namely doctors. The new research will also assist other stakeholders, like chemists, stock clerks, medical researchers, line managers like ABMs and RBMs, and patients, in understanding their opportunities and researching the effects of medication marketing tools on them.
6. The effect of non-prescription (OTC) specifics or herbal creation apparatus in Ayurveda, Homoeopathic, or Unani drug can also be studied. The effect of medicine creation tools on prescription-based drug alone was estimated in this research.

It looked at how prescription behaviour is impacted by pharmaceutical sales representatives and the promotional tools used by them to promote the brands. The following suggestions were made in light of the observations and conclusions mentioned:

- To successfully understand doctors' prescription choices, pharmaceutical corporations should concentrate on leveraging marketing initiatives like sponsoring meetings and giving out goods that serve as brand reminders, such pens and other stationery. In order to meet their marketing and sales goals, pharmaceutical businesses must spend on those initiatives.
- Pharmaceutical sales representatives (PSRs) should have the necessary training in ethical and professional promotion so that they can behave in a way that makes their connection with doctors attractive and likeable.
- Understanding the most pressing needs of physicians and making an effort to meet those needs will be advantageous to both the pharmaceutical firm and the

practicing physician.

- Physicians had to pay close attention to the pharmaceutical sales representatives' suggestions because they may aid them advance their professional proficiency in selecting and prescribing the greatest medications for patients.
- In order to clearly define acceptable interactions between physicians and the pharmaceutical sector or to forbid problematic interactions in their code of ethics, the government body or professional associations must take action.

With the findings and conclusions, the current research would like to reevaluate its presumptions in the aim of influencing aspects that were not examined in this study in the context of future research.

CHAPTER 7: REFERENCES

3. [i] Ahmed, R.R.; Vveinhardt, J.; Štreimikienė, D.; Awais, M. Mediating and Marketing factors influence the prescription behavior of Physicians: An Empirical Investigation. *Amfiteatru Econ.* **2016**, *18*, 153–167. [**Google Scholar**]

4. **https://twitter.com/evaluatepharma/status/1140561867527602176**

5. Blumenthal D. Doctors and drug companies. N Engl J Med. 2004; 351: 1885–90. 10.3402/ljm.v7i0.18556. [Google Scholar]C

6. Williams SC. Food for thought: why physicians should reconsider gifts from pharmaceutical companies. Curr Surg. 2003; 60: 152–3. 10.3402/ljm.v7i0.18556. [Google Scholar]

7. Morrison AW. 1999 LeTourneau award. An analysis of anti-kickback and self-referral law in modern health care. J Leg Med. 2000; 21: 351–94. 10.3402/ljm.v7i0.18556. [Google Scholar]

8. Williams SC. Food for thought: why physicians should reconsider gifts from pharmaceutical companies. Curr Surg. 2003; 60: 152–3. 10.3402/ljm.v7i0.18556. [Google Scholar]

9. Lieb K, Brandtönies S. A survey of German physicians in private practice about contacts with pharmaceutical sales representatives. *Dtsch Arztebl Int*. 2010; 107(22):392-398.

10. Lieb K, Scheurich A. Contact between doctors and the pharmaceutical industry, their perceptions, and the effects on prescribing habits. *PLoS One*. 2014;9(10): e110130.

11. Chimonas S, Brennan TA, Rothman DJ. Physicians and drug representatives: exploring the dynamics of the relationship. *J Gen Intern Med*. 2007; 22(2):184-190.

12. Fugh-Berman A, Ahari S. Following the script: how drug reps make friends and influence doctors. In: Sismondo S, Greene JA, eds. *The Pharmaceutical Studies Reader*. New York, NY: John Wiley; 2015:123-134.

13. Avorn J, Chen M, Hartley R. Scientific versus commercial sources of influence on the prescribing behavior of physicians. *Am J Med*. 1982; 73(1):4-8.

14. Alssageer MA, Kowalski SR. A survey of pharmaceutical company representative interactions with doctors in Libya. *Libyan J Med* 2012; 7:18556 10.3402/ljmv7i0.18556

15. Khan N, Abbas Naqvi A, Ahmad R, et. al. Perceptions and Attitudes of Medical Sales Representatives (MSRs) and Prescribers Regarding Pharmaceutical Sales Promotion and Prescribing Practices in Pakistan. *J Young Pharm* 2016; 8:244–50. 10.5530/jyp.2016.3.13
16. Zaki NM. Pharmacists' and physicians' perception and exposure to drug promotion: A Saudi study. *Saudi Pharm J* 2014; 22:528–36. 10.1016/j.jsps.2014.02.008
17. Fischer MA, Keough ME, Baril JL, et. al. Prescribers and pharmaceutical representatives: why are we still meeting? *J Gen Intern Med* 2009; 24:795–801. 10.1007/s11606-009-0989-6
18. Chimonas S, Brennan TA, Rothman DJ. Physicians *and drug representatives: exploring the dynamics of the* relationship. *J Gen Intern Med* 2007; 22:184–90. 10.1007/s11606-006-0041-z
19. Saito S, Mukohara K, Bito S. Japanese practicing physicians' relationships with pharmaceutical representatives: a national survey. *PLoS One* 2010;5: e12193 10.1371/journal.pone.0012193
20. Ball DE, Al-Menea SA. Exposure and attitudes to pharmaceutical promotion among pharmacy and medical students in Kuwait. Pharm Educ. 2007; 7(4):303–13.
21. Mikhael EM, Alhilali DN. Gift acceptance and its effect on prescribing behavior among Iraqi specialist physicians. Pharmacol Pharm. 2014; 5(07):705.
22. **American Medical Association**. Clarification of opinion 8.061 "Gifts to physicians from industry." In, *Code of medical ethics: current opinions with annotations* Chicago, AMA 2002:195–203.
23. **The Kaiser Family Foundation**. *National Survey of physicians part II: doctors and prescription drugs*. Menlo Park, CA: Kaiser Family Foundation, 2002, http://www.kff.org.
24. **Watkins C**, Moore L, Harvey I, *et al.* Characteristics of general practitioners who frequently see drug industry representatives: national cross-sectional study. *BMJ* 2003; **326**:1178–9.
25. **Wager E**. How to dance with porcupines: rules and guidelines on doctors' relations with drug companies. *BMJ* 2003; **326**:1196–8.
26. **Carthy P**, Harveya I, Brawnb R, *et al.* A study of factors associated with cost and variation in prescribing among GPs. *Fam Pract* 2000; **17**:36–41.

27. **Prosser H**, Almond S, Walley T. Influences of GPs' decision to prescribe new drugs—the importance of who says what. *Fam Pract* 2003; **20**:61–8.
28. **Zipkin DA**, Steinman MA. Interactions between pharmaceutical representatives and doctors in training. A thematic review. *J Gen Intern Med* 2005; **20**:777–86.
29. Williamson JW, German PS, Weiss R, Skinner EA, and Bowes F. Health science information management and continuing education of physicians: a survey of US primary care practitioners and their opinion leaders. Ann Intern Med. 1989 Jan 15; 110(2):151-60
30. **Chew LD**, O'Young TS, Hazlet TK, *et al.* A physician survey of the effect of drug sample availability on physicians' behavior. *J Gen Intern Med* 2000; **15:478**–83.
31. E. De Laat, F. Windmeijer, and R. Douven, How does pharmaceutical marketing influence doctors' prescribing behaviour? 2002
32. S. Vasiljev and D. Ph, "Pharmaceutical Market(ing): Theory and Reality," Theory Methodol. Pract., vol. 6, no. 02, pp. 85–91, 2010.
33. I. V. Pestun and Z. M. Mnushko, "Methodology of modern marketing management pharmaceutical organizations," Upr. Ekon. ta zabezpečennâ âkostì v Farm., no. 4(52), pp. 60–66, Nov. 2017.
34. M. Alowi and Y. Kani, "Promotion of Prescription Drugs and Its Impact on Physician's Choice Behavior," J. Pharm. Care Heal. Syst., vol. 06, no. 01, 2019.
35. S. A. Mogull and D. Balzhiser, "Pharmaceutical companies are writing the script for health consumerism," Communication Design Quarterly Review, vol. 3, no. 4. pp. 35–49, 2015.
36. F. L. Kritz, "Check out drug coupons, then check bottom line," Los Angeles Times, 2007. [Online]. Available: https://www.latimes.com/archives/la-xpm-2007-dec-03-hecoupons3-story.html [Accessed: 28-Mar-2020].
37. C. M. Gulhati, "Marketing of medicines in India," BMJ, vol. 328, no. 7443, pp. 778–779, Apr. 2004.
38. A. Banerjee, A. Das, and G. Chakrabarti, "Tricks and truths of drug marketing: An insider's experience of an Indian pharmaceutical organization," Asian Journal of Social Science, vol. 39, no. 5. pp. 581–604, 2011.
39. S. Sandip and K. Vishavadia, "Impact Study on Various Promotional Practices Done by Pharmaceutical Companies on Doctor's Prescription Behavior: What Does Literature Say?" Int. J. Econ. Res., vol. 14, no. 14, pp. 15–22, 2017.

40. S. Vancelik, N. E. Beyhun, H. Acemoglu, and O. Calikoglu, “Impact of pharmaceutical promotion on prescribing decisions of general practitioners in Eastern Turkey,” BMC 143 | P a g e Public Health, vol. 7, pp. 1–8, 2007.
41. V. Auruskeviciene, J. Butkeviciene, and L. Salciuviene, “Revisiting the role of traditional, electronic and mobile-based communication channels in the pharmaceutical industry of Lithuania,” Eng. Econ., vol. 26, no. 5, pp. 541–550, 2015.
42. J. Lexchin, “Interactions between physicians and the pharmaceutical industry: what does the literature say?” C. Can. Med. Assoc. J. J. l"Association medicale Can., vol. 149, no. 10, pp. 1401–1407, 1993.
43. R. H. Perlis and C. S. Perlis, “Physician payments from industry are associated with greater medicare Part D prescribing costs,” PLoS One, vol. 11, no. 5, pp. 1–12, 2016.
44. C. H. B. Ibrahim, Ishak Abubakar Y., “Pharmaceutical Representatives and Prescription Decisions by Physicians in Saudi Arabia,” J. Mark. Manag., vol. 4, no. 1, pp. 69–79, 2016.
45. S. Kamal et al., “Perceptions and attitudes of Egyptian health professionals and policymakers towards pharmaceutical sales representatives and other promotional activities,” PLoS One, vol. 10, no. 10, pp. 1–13, 2015
46. M. A. Al-Areefi, M. A. Hassali, and M. I. B. M. Ibrahim, “Physicians’ perceptions of medical representative visits in Yemen: A qualitative study,” BMC Health Serv. Res., vol. 13, no. 1, p. 1, 2013.
47. C. B. Sufrin and J. S. Ross, “Pharmaceutical Industry Marketing: Understanding Its Impact on Women’s Health,” Obstet. Gynecol. Surv., vol. 63, no. 9, pp. 585–596, Sep. 2008.
48. G. K. Spurling et al., “Information from pharmaceutical companies and the quality, quantity, and cost of physicians’ prescribing: A systematic review,” PLoS Med., vol. 7, no. 10, 2010.
49. M. M. T. Punchibandara, “The impact of promotional strategies of pharmaceutical companies on doctor’s recommendation of branded drugs: an empirical study on pharmaceutical industry in Sri Lanka,” Kelaniya J. Manag., vol. 6, p. 55, 2018.
50. R. Cooper, “Major new products: What distinguishes the winners in the chemical industry?” J. Prod. Innov. Manag., vol. 10, no. 2, pp. 90–111, Mar. 1993.
51. F. F. Gönül, F. Carter, E. Petrova, and K. Srinivasan, “Promotion of Prescription Drugs and Its Impact on Physicians’ Choice Behavior,” J. Mark., vol. 65, no. 3, pp. 79–90, Jul. 2001.

52. S. Narayanan, R. Desiraju, and P. K. Chintagunta, “Return on Investment Implications for Pharmaceutical Promotional Expenditures: The Role of Marketing-Mix Interactions,” J. Mark., vol. 68, no. 4, pp. 90–105, Oct. 2004.
53. J. A. Rizzo, “Advertising and Competition in the Ethical Pharmaceutical Industry: The Case of Antihypertensive Drugs,” J. Law Econ., vol. 42, no. 1, pp. 89–116, Apr. 1999.
54. M. Stros and N. Lee, “Marketing dimensions in the prescription pharmaceutical industry: a systematic literature review,” J. Strateg. Mark., vol. 23, no. 4, pp. 318–336, 2015.
55. H. Bauchner, L. Simpson, and J. Chessare, “Changing physician behaviour.,” Arch. Dis. Child., vol. 84, no. 6, pp. 459–62, Jun. 2001.
56. M. A. Rodwin, “Drug advertising, continuing medical education, and physician prescribing: A historical review and reform proposal,” J. Law, Med. Ethics, vol. 38, no. 4, pp. 807–815, 2010.
57. R. Saxena, “REVIEW ON IMPACT OF DIFFERENT FACTOR’ S ON PHYSICIAN PRESCRIBING BEHAVIOR,” vol. 2, no. 1, 2018.
58. I. Black, “Marketing Masterclass — Pharmaceutical marketing strategy: Lessons from the medical literature,” J. Med. Mark., vol. 5, no. 2, pp. 119–125, Apr. 2005.
59. M. Alshurideh, B. Al Kurdi, A. Abumari, and S. A. Salloum, “Pharmaceutical Promotion Tools Effect on Physician's Adoption of Medicine Prescribing: Evidence from Jordan,” Mod. Appl. Sci., vol. 12, no. 11, p. 210, 2018.
60. G. Taneja, “Impact of Phar maceutical Industry Pr omotion Mix Promotion on Doctor’s Prescribing Behaviour,” vol. IV, no. 4, pp. 82–95, 2008.
61. I. M. and I. M. Al-areefi MA, Hassali MA, “Physician perception of medical representative’s visit in Yemen, a qualitative study.,” pp. 1–8, 2013.
62. R. A. Bauer and L. H. Wortzel, “Doctor’s Choice: The Physician and his Sources of Information about Drugs,” J. Mark. Res., vol. 3, no. 1, pp. 40–47, Feb. 1966.
63. T. Caplow and J. J. Raymond, “Factors Influencing the Selection of Pharmaceutical Products,” J. Mark., vol. 19, no. 1, pp. 18–23, Jul. 1956.
64. K. Abdul Waheed, M. Jaleel, and M. Laeequddin, “Prescription loyalty behavior of physicians: An empirical study in India,” Int. J. Pharm. Healthc. Mark., vol. 5, no. 4, pp. 279–298, 2011.
65. Y. Ekinci and P. L. Dawes, “Consumer perceptions of frontline service employee personality traits, interaction quality, and consumer satisfaction,” Serv. Ind. J., vol. 29, no. 4, pp. 503–521, Apr. 2009.

66. C. Y. Shao, J. A. Baker, and J. Wagner, “The effects of appropriateness of service contact personnel dress on customer expectations of service quality and purchase intention,” J. Bus. Res., vol. 57, no. 10, pp. 1164–1176, Oct. 2004.
67. R. F. Wright and W. J. Lundstrom, “Physicians’ perceptions of pharmaceutical sales representatives: A model for analysing the customer relationship,” Int. J. Med. Mark., vol. 4, no. 1, pp. 29–38, 2004.

CHAPTER 8: APPENDICES

8.1 QUESTIONNAIRE

IMPACT OF PHARMACEUTICAL SALES REPRESENTATIVES ON PHYSICIAN PRESCRIPTION BEHAVIOUR

The survey is related to the doctors of four different specialties: Consultant Physician, General Practitioner, Diabetologist and Endocrinologist.

Opinion:

The check questions are made with the opinion of the specific exertion that are been adopted by the pharmaceutical organizations that affect your tradition pattern bear the perception-predicated response. Please ensure that the exertion of the pharma organizations while filling out these questions and read the points of the set of questions and answer accordingly to your opinion against each question. There is No correct or incorrect answer or numerical information is demanded. Your opinion is most justifiable. The answer to each question will help me to estimate the responses and make proper conclusions. Give the answers from 1 to 5 where 1 show Always & 5 show Never.

A. Always
B. Mostly
C. Sometimes
D. Rarely
E. Never

For some questions in the later part of the survey, please provide your answers from 1 to 3

1. Yes/ Always
2. Yes/ Sometimes
3. No

Privacy and data access:

The responses attained from each replier are fully nonpublic and anonymous. The data collected will only be used for the analysis purpose only. It is voluntary participation but your contribution will help in successful completion.

Section I

Fill in the data about yourself.

Q1. Gender: ○ Male ○ Female
Q2. Specialty: **A. Consultant Physician** **B. General Practitioner** **C. Diabetologist** **D. Endocrinologist**
Q3. How long you are practicing? _____ Years
Q4. Do you entertain activities by pharmaceutical companies? **○ Yes ○ No** **(If yes, kindly answer question 5)**
Q5. Which kind of activity do you prefer more? **○ Patient oriented ○ Practice oriented**

Section II

Q6. What is your opinion with the following statements?

(Please keep in mind the **DETAILING OF MEDICAL REPRESENTATIVES** while filling up the questionnaire)

Detailing of the brand by medical representative helps in prescription.	Always	Mostly	Sometimes	Rarely	Never
Discuss the scientific facts of during detailing	Always	Mostly	Sometimes	Rarely	Never
Medical representative play role in improving knowledge	Always	Mostly	Sometimes	Rarely	Never
Are medical representatives	Always	Mostly	Sometimes	Rarely	Never

properly trained for detailing					
Is detailing through visual aid correct way to discuss the brand	Always	Mostly	Sometimes	Rarely	Never

Q7. What is your opinion regarding the following statements?
(Please keep in mind the **PROMOTIONAL PRICING** while filling up the questions)

Brands with lower price are of cheap quality	Always	Mostly	Sometimes	Rarely	Never
Promotional pricing affects prescription habit	Always	Mostly	Sometimes	Rarely	Never
Promotional prices are a way to help patients to get medicines at economical prices	Always	Mostly	Sometimes	Rarely	Never

Q8. What is your opinion regarding the following statements?
(Please keep in mind the **SAMPLES** while filling up the questionnaire)

More number of samples determines the prescription habit.	Always	Mostly	Sometimes	Rarely	Never
Free samples help to serve the needy patients	Always	Mostly	Sometimes	Rarely	Never

Q9. What is your opinion regarding the following statements?

(Please keep in mind the **CONTINUOUS MEDICAL EDUCATION** while filling up the questionnaire)

Scientific CME with good speaker can change prescription pattern	Always	Mostly	Sometimes	Rarely	Never
CME with my interested topic attracts me	Always	Mostly	Sometimes	Rarely	Never
CME with international speakers is very effective	Always	Mostly	Sometimes	Rarely	Never

Q10. What is your opinion regarding the following statements?

(Please keep in mind the **PRODUCT DEMONSTRATION** while filling up the questionnaire)

Product demonstration creates an impact in brand recall	Always	Mostly	Sometimes	Rarely	Never
Product demonstration is required for some brands	Always	Mostly	Sometimes	Rarely	Never
Medical representatives should be properly trained for product usage demo	Always	Mostly	Sometimes	Rarely	Never

Q11. What is your opinion regarding the following statements?

(Please keep in mind the **SPONSORSHIP** while filling up the questionnaire)

Sponsorship according to you in any way affects your prescription pattern	Always	Mostly	Sometimes	Rarely	Never

Q12. What is your opinion regarding the following statements?
(Please keep in mind the **PATIENT EDUCATION PROGRAM** while filling up the questionnaire)

Pharma companies engaging in patient education program can get my prescriptions	Always	Mostly	Sometimes	Rarely	Never
Patient education program helps to educate patients about the disease and medicines	Always	Mostly	Sometimes	Rarely	Never

Q13. What is your opinion regarding the following statements?
(Please keep in mind the **PERSONAL ATTIRE OF MEDICAL REPRESENTATIVE** while filling up the questions)

Representatives of MNC's are always well dressed and well disciplined	Always	Mostly	Sometimes	Rarely	Never
Good attire of the representative catches my attention towards his communication	Always	Mostly	Sometimes	Rarely	Never

Q14. What is your opinion regarding the following statements?

(Please keep in mind the **MEDICAL REPRESENTATIVES' KNOWLEDGE** while filling up the questionnaire)

Doctors always appreciate representative with good scientific knowledge	Always	Mostly	Sometimes	Rarely	Never
Product demonstration is required for some brands	Always	Mostly	Sometimes	Rarely	Never
Medical representatives are a source of knowledge for you in some way	Always	Mostly	Sometimes	Rarely	Never

Q15. What is your opinion regarding the following statements?
(Please keep in mind the **CUSTOMER RELATIONSHIP MANAGEMENT OF PHARMACEUTICAL COMPANIES** while filling up the questions)

Pharma companies are good at customer relationship management	Always	Mostly	Sometimes	Rarely	Never
I feel good when I and my patients get good services from the Pharma company	Always	Mostly	Sometimes	Rarely	Never

Thank you for your time and participation.