A Critical Review, Synthesis, and Future Research Directions on Moderating the Influence of Pharmaceutical Marketing on Doctors' Prescribing Habits for Branded Drugs

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Basically, a drug prescription is a situation whereby a doctor is making decisions for the patient, the consumer. The pharmaceutical industry has a great deal to do with these prescription decisions though its marketing strategies are usually the subject of criticism. Different uses and applications of promotion tools exist in the pharmaceutical industry and this can mostly be categorized into sales promotion where the major one is the medical representatives (MRs) who discuss with doctors about the likelihood of their prescribing certain products from the respective firms. MRs offer comprehensive medical information for prescribing and hitherto, offer such enticing inducements such as gifts besides the other modes of promotion. This review paper was focused on evaluating the impact, which these pharmaceutical marketing techniques and MR visits have on the doctors' prescription writing practices in India. This study establishes that these promotional activities positively influence physicians' prescribing behaviour when compounded by frequent MR visits. But still, it is still unexplained how these all strategies combined together affect the overall system and this is where future research using empirical research study is required.
Keywords: Physician prescribing, Drug promotion, Pharmaceutical marketing, Prescription behaviour.

1. Introduction

While undertaking this evaluation, health is seen both as a successor to as well as a bringer of economic prosperity and the creation was considered as a chief contributor to India's economic advancement as mentioned in the "UN Millennium Development Goals". Remaining industries are often called the ''life line'' industries because they are deemed to help make the suffering of ill persons more tolerable. Also, it plays a vigorous role in economic stability and generates employment opportunities for millions of people and even export earnings (Chaudhuri, 2013). Large Scale Industries in the Indian pharmaceutical industry is marked by organized sectors of companies some of which are subsidiaries of the big multinational companies or Indian fully owned companies while others are Small Scale Industries.

Challenges, risks and trends that affects pharmaceutical companies (PC) includes global competition, economic cycle, cost pressures, patent barriers, and generics. Consequently, in this highly competitive environment, marketing is mainly important for PCs, and has about 33% of the funds being spent on promotion costs (Civaner, 2012). The number of predominantly Indian PCs is quite limited. Since the beginning, the main key to its success was a competitive price for labor in India, and the pharmaceutical sector is primarily dominated by large multinational companies with branches in India. Again, the vast majority of pharma firms, including MNEs with a presence in India, hire Indian employees at every organizational tier, including entry level and senior management. However, like most of the industries of India, pharma production sometimes is a seemingly combination of state and private initiative. Looking at the big picture, there have been considerable changes and these brought about new pressures on manufacturers, providers, and payers. Currently the consumer requires flexibility just as other industries have displayed and demands for it to be offered by the pharmaceutical industries. Multifaceted elements are expected to fuel the rapid expansion of the Indian pharmaceutical business in the future years (Kalotra, 2014). Although many PCs have successfully implemented a variety of strategies to serve different customers' needs, some changes in the business and consumer environments oblige the company to look for new and better ways of achieving their increased profitability.

A vast chain of decision-makers defines the transaction (prescription) area for which the direct customer for the pharmaceutical industry, the doctors, are pragmatic within pharmaceutical and healthcare industries. It is normal to employ medical representatives directly to doctor with the influence on the other higher decision making levels (Saxena, 2010).

In the recent past the marketing communications of the pharmaceutical sector have been changing mainly triggered by regulations. Marketing concept, which is a concept that is focused on brands, has the potential to reap the following benefits: increase in profit, attaining competitive competitive advantage , influence decision makers to prescribe and recommend products, improvement of the communication between industry and customers, advancement of the brand equity, therefore we get cost leadership and dominance in the market (as cited by Pashkov et al., 2016). Medicine prescription behavior (MPB) is a doctor's choice of a specific medicine in the manufacturing of which an industry participates. Doctors have certain principles which they take into consideration when choosing a medication. One of the important elements of the pharmaceutical marketing communication is the passing of information about the products to the doctors with the aid of the medical representatives (MRs)

who offer in-depth information about the relevant products. Pharmaceutical companies' MRs are people who are given regions with which they interact with doctors, pharmacists, and stockists. MRs which form the basis of pharmaceutical marketing, make a physical call on the doctors with the intent to alter their prescription behavior towards the MRs' brands (Bala & Sharma, 2019). There are different ways through which these pharmaceutical firms influence the physician and patient population, some of the methods include; samples, journals, printed articles and material and other trinkets. According to Be Boehner (2002) about 84% of pharmaceutical marketing is targeted towards physicians since they are the key decision makers and control access to the final consumers, as seen from the processor's marketing view. Aware of the public attention that is being given to drug marketing messages that are directed at consumers, physician-targeted marketing campaigns have gained popularity in recent years due to the escalating price of drugs and growing concern with drug safety. Hence, the marketing of the drugs, especially by the pharmaceuticals firms ought to be done effectively in consideration of ethical considerations. There is need for manufacturers to realize the extent of their marketing programmes on doctors' prescriptions of prescription medicines (Datta & Dave, 2017). Therefore an evaluation of the effects of pharmaceutical company's marketing strategies on the prescription pattern of doctors in India would highlight these prêt and recognize the level of pharmaceutical marketing strategies imprint and the best practice deployed by the medical representatives of the different pharmaceutical companies. This review will sought to establish the correlation between physician prescribing decisions and marketing activities by the pharmaceutical industry.

Effects of pharmaceutical marketing

In a competitive economy, only those companies that have information about their customers which is accurate and all-inclusive will be able to survive and increase their revenues effectively implementing modern methods of marketing (Mihart, 2012). Marketing as understood by Philip Kotler and Armstrong is therefore in simple terms "the process of communicating the value of a product in order to sell it." (Kotler, 2010). Also in 1964, the UK company Borden mentioned the pharmaceutical marketing communication mix, with major constituents of the product, the price, place, and finally the promotion, known as the 4Ps of marketing (Ding et al., 2016). These 4Ps help create prescriptive orders out of doctors and in turn the product gets delivered to consumers making sure that the business gets its targeted sales values (Ahmed et al., 2014). marketing prescription drugs is therefore the main source of generating revenues for pharmaceutical companies (PCs). These companies incorporate multiple tactical approaches to promoting the sales of the drugs. Marketing is seen as a significant spending area by many manufacturers and distributors since most patients are prescribes drugs by physicians (Al-Haddad et al., 2014). The ethical marketing of prescription medicines even in the pharmaceutical industry is not fully pristine and there still exist unethical marketing practices. These practices bias prescribers by offering incomplete and self-serving data and always aim at generating high revenues for the companies at the expense of patient needs and best interest (Shaw & Whitney, 2016).

According to the experience described by Hailu et al. (2021), medications are equally important in the health care system since they serve as fundamental lifelines. Used prudently they help to reduce patients' symptoms as has been seen above all through the use of opiates for moderate pain. Physicians are employed to provide reasonable treatment and for this to

happen, the relationship between doctors and the drug manufacturing industries has to be appropriately moral. Hospital physicians' prescription pattern, which was the focus of the study conducted by Hailu et al., (2021), was looked at from the perceived impact of pharmaceutical marketing mix element. This study also found that the promotional activities including company sponsored CME in doctors' prescription pattern, information from MRs, MR visits more than once in a month and promotional drug brochures are highly influential.

When assessing what is ahead, it becomes clear that pharmaceutical industries will have to pay more attention, into digitalisation, connectivity, data evaluation and collaboration. Digital is set to become table stakes for the sector over the coming months, primarily when pharmaceutical companies have the right marketing tools. Through the implementation of digital technology, the relationship of the health care team, patients and the pharmaceutical brand of mediated by technology will be two sided rather than the one sided relationship which is typical in the health care sector (Parekh et al., 2016).

Smolynets et al., (2016) established that while there is understanding of the intended market demand by pharmaceutical companies, the actual demand could differ. Perrin has identified eight demand drivers that characterise the current demand landscape. Conversational marketing is related to the negative demand for drugs and medical services. Marketing stimulation relates to when a potential market does not show any consideration for a particular product. Remarketing helps to counter a downward trend of demand of certain medication or services over time. Affiliate marketing is aimed at satisfying current demand, while synchronised marketing or irregular marketing cope with fluctuating demand. Compared to demarketing which focuses on excess demand – demand is more than supply, counteractive marketing deals with destructive demand. Developmental marketing has a bearing on the need for drugs during development stage of production. Due to these conditions, this analysis can be used to determine opportunities in the market and provide a company or brand with strategic marketing paths to achieve a competitive edge.

Pharmaceutical marketers have, for a long time, relied on physicians as their core customers, with the medications being sold through direct-to-physician methods including detailing, and medical journal advertising. However, the concept of patient nomophobia is appearing as a new phenomenon in patient's decision making, which means that patients do have a say in the operational treatment decisions and hence two carrier relationship between patients and physicians and marketing of drugs. In healthcare, relationship marketing can take two forms: Two main types of initiative, at the primary level, can be identified: the first one is the action of physicians to enhance the level of their communication with patients; the second one is the action of pharmaceutical organisations to build a relevant connection with patients or, at least, with doctors (Camacho, 2014). Wilcock (2020) argues that although various techniques used in direct marketing can easily be seen, it is important to learn about the indirect ways of advertising and encouraging people to use drugs. Marketing communication plans may not always belong to the pharmaceutical companies alone; large portals that gather, sort and deliver information help the pharmaceutical firms to retain large scale control over the market.

Physician prescription decision

It can be testified that the pharmaceutical industry has known a tremendous growth in the last three decades. A few companies in the past manufactured and marketed a small number of medicines. Today, millions of products are sold to physicians by many firms, are more competitive and firms are under pressure to look for better and better ways of marketing their products (Vyas & Panesar, 2019). The enhancement of the entry of more multinationals, more cases in patent filings by the pharmaceutical firms, and application of complex sales concepts such as channel management, KAM and CSO the pharmaceutical sector has become more competitive. There are many pharma players in India whose portfolio contains the same molecules of drug and with different brand name. To force a doctor to start prescribing their unique products, the companies use a number of promotional techniques including the provision of gifts, sponsorship of travel, and providing sample medication. Most countries are interested in minimizing the influence of these incentives on the prescription activity.

A cross-sectional survey to identify the factors affecting prescription in India (Narendran & Narendranathan, 2013) revealed that perceived rapport with doctors, meetings over lunch, market positioning class, product quality, and brand name played a role in prescription patterns; however, direct e-mail communications, journal ads, and branded letterhead did slightly. Drug manufacturers have various techniques by which they influence doctors to prescribe the products of the drug manufacturing companies. It should however be understood that these strategies can cause a variety of impacts aamas) Physicians practicing in urban areas b) Physicians practicing in rural areas. Another study contrasted the impact of pharmaceutical marketing determinants on prescription volumes in urban and rural settings (Gupta et al., 2018) and found that while product cost, seminars, company reputation, brochures, catalogues, audiovisual aids, samples, gifts, and launch parties were significantly similar in both setting, email marketing was more acceptable in the urban settings.

One study embracing the prescription behavior of doctors with brand equity (Srivastava & Bodkhe, 2020) established that brand equity is an indication of physicians in India to prescribe specific drugs. JVP, TAC & SNC identified 'Availability', lower costs and satisfactory efficacy to be the reasons why many I doctors prefer branded generics. They also used such tools as trial results; thus, doctors could always look into a previous marketing campaign and uncover new ways of marketing to a given segment of the population. The cut down on cost on marketing through ineffective tactics could benefit both the healthcare sectors and pharma producers.

Studies on the impact of pharmaceutical marketing on the doctors' prescription in Jordan (Albarq & Suleiman, 2021) defined that marketing practices affected prescription decisions. Therefore, the study wanted to know the effectiveness of the various promotional tools, and discovered that public relation tools were the most influential while the advertisement tools like printed publications were less influential. The second Indian study by Narayan, Mohanty and Kumar (2020) examined the tools employed by the pharmaceutical industry and the reactions of doctors to such approaches. A randomized survey in the study reveals that over 60% of doctors agreed that Pharmaceutical sales promotion had an impact on the prescription rate. Apart from the marketing considerations, the patient's economic status was considered to be a determinant of prescription. The study also found out that doctors respond differently

to drug presentations, and the benefits when doctors attend drug launch events.

Self selling and sales promotions were ranked high in influencing prescription behavior in Ethiopia than other promotional tools according to Negash & Adamu (2017). Another study (Khazzaka, 2019) show that the marketing practices of drugs and the influence on doctors' prescription, where the majority of doctors admitted that they receive orders to promote the drugs offered by medical representatives and free drug samples. Predictably, the medical practitioners did not deem sales calls from pharmaceutical companies to be significantly persuasive but about accepting gifts, deemed ethical. In addition, free samples were used mostly by the physicians to help the patients.

Another study by Krunal et al., 2021 focused on how promotional tools that include information offered by medical representatives, CME, medical missions, and CRM affect the doctor's prescribing behaviour. Prescription choices were influenced also by CRM in conjunction with medical camps and educational activities. A research carried out by Harahap & Surip also focused on the effect of marketing on physicians' satisfaction, clarification being made that certain aspects such as the quality as well as the price of a product, associated promotions and drug availability affected the satisfaction levels among physicians as well as the decisions they make concerning prescription. However, the study revealed that product satisfaction had insignificant effects on doctor's satisfaction level, but their expectation on drug availability, promotion and price affected their satisfaction levels. The study established that distribution factors, promotion factors, and price factors significantly affected the physician satisfaction level and, hence, prescription decisions.

Finally, Ahemed et al (2016) found out that promotional materials, official meetings, individual approaches, seminars, and physicians' prescriptions are related. The exact nature of this relationship was predicated upon the extensive use of personal contacts by medical representatives with doctors, and brand personality of the pharmaceutical firms which significantly influenced the decision of doctors on prescription.

Methods of Promotion and Marketing

The production of drugs for the treatment of diseases is a massive task, that calls for significant investment both in terms of capital, workforce and ideas from accredited scientists. This duty is mainly undertaken by the pharmaceutical industry, which experiences threats from the lack of changes and development in governments' policies and funding for the public healthcare sector across the globe (Tukdeo et al., 2016). The real fight is not between drug manufacturers who put the Three Rs first and those that put the bottom line first in order to offset research costs—often through unethical marketing. This inclination owes its existence to the fact that drug marketing has been found to shift the prescribing behavior of physicians to a particular product line for industry gain even if the supporting evidence for these drugs is poor. The costs of drug development can easily run into billions, mainly because such processes include the use of technologies, human resources, and infrastructure that are relatively complex. Therefore, the industry has the obligation of creating the revenues through marketing and sales despite the industry stakeholders who frequently claimed that the focus is shifting to marketing than research and development due to pressure to perform financially.

Firms in the pharmaceutical industry use various marketing communication tools in a bid to

meet consumers' needs and reach various consumers. This is of great importance in drug promotion a task achieved by a well-formulated marketing department within the industry (Masood et al., 2009). Direct personal selling by representatives is the most common approach employed in drug promotion where the representatives take products directly to the doctors. These representatives are supposed to ensure doctors receive information about new drugs by passing fliers (Jacob, 2018). Salmasi et al. 2016 surveyed 15 studies from different countries to show that physicians considered MRs as convenient informative sources, who they were ready to meet and take gifts from. Free samples are also displayed by MRs to physicians: they act as complementary prompts for prescribing more of the company's products for the physicians to disseminate (Jacob, 2018).

Another essential drug marketing method used by the drug manufacturing firms is the production of promotional items consisting of printed and electronic media advertisements, including television and websites among others. Direct advertisement of drugs continues to take RGPD path but most of it is still aimed towards physicians but direct to consumer advertising is increasing as well. Another emerging form of drug advertising is through free meals, token gifts, and the like in industry supported continuing medical education (CME) programs that some doctors consider unethical. Taking gifts or lunch from the pharmaceutical companies contributes to the doctor prescribing the drugs to reciprocate the favor offered. Besides these strategies, the pharmaceutical companies deploy other tactics with regard to marketing that are socially unethical though not discussed in this article (Ebeling, 2011).

According to Kalshetty et al. (2013), it is pointed out that India pharmaceutical industry highly rated for the future year backed by some factors. Ranbaxy, DRL, CIPLA and Dabur the top Bulk Drugunft Manufacturers along with other companies are already with a mark in the industry. Despite, a wide variety of companies achieving different strategies for reaching different consumer groups, new business and consumer trends are both profit challenges and opportunities. Doctors, who are the prescription process through which they purchase directly from the pharmaceutical company, depends on the following keys players within the pharmacy and health care industries. MRs have been designed in the past to sell products to physicians and others in the chain of command. As promulgated by Kalshetty et al. (2013), pharmaceutical business promotional strategies include MRs; Within sales force teams, integrated marketing; Communication; Promotional events for the MDs; And activities for chemists to back prescription.

Handa et al. (2013) pointed out that pharmaceutical marketing tools are communication instruments that disseminate and communicate information for and to legal prescribers on prescription medicines through activities. Unlike other industries, a major portion of marketing communication effort is directed towards doctors, who wield considerable influence over the choice of product. Research done by comparing various promotional tools employed by the pharmaceutical sector revealed that the above instruments are employed, samples for physicians, medical apparatus as gifts, anniversary and birthday messages coupled with cakes and gifts, MR's frequent calls and visits, subscriptions, sponsorship for personal trips, gifts in terms of textbooks, attendance to CMEs/conferences and a website/short message service among others.

Ahmed & Vveinhardt, in their paper, introduced pricing in the pharmaceutical industry in

which they defined price as the amount of money charged for products and services as well as the rate at which they exchange customer values. Pricing has been one of the most among the contentious strategies in the marketing of drugs. Businesses think over the best options for pricing, it can be cost based, customer based or competitor based depending on company's objectives. Promotional pricing is often employed with drugs always being stocked for sale by companies directly to the doctors. The cost of a medicine when it is sold to the doctors or hospitals seems to be much cheaper as compared to MRP mentioned on its outer pack and the doctors and hospital milk huge profit by selling such medicines. There are instances where MRs directly dispense the vials and take monition from patient entrepreneurs on behalf of doctors. It may also mean that doctors' prescription behaviour might be sensitive to promotional pricing with sentiments shifting towards brands that offer large degree of discounts combined with high maximum retail prices.

Punchibandara also concluded that, based on flows theory, patients, as the end consumers, are not the direct customers of the pharmaceutical industries. Consequently, what marketing is done is directed to the doctors by the various companies which deal in products such as pharmaceuticals. For the participation in CME programs, doctors have an opportunity to extend their existing knowledge regarding new medical innovations. Further, Punchibandara (2018) concluded the following trends of promotional modes that exist in Sri Lankan pharmaceutical industries: Medical detailing and offering of scientific materials and sponsorships and CME programs exert pressure on doctors' prescription decisions. In this context the impact of MRs appeared to be significant, but other forms of promotion, including scientific pieces and CME, were somewhat less influential.

This is because as Lim et al also notes, the nature of the corporate image that a given pharmaceutical company has will also help to determine the doctors' prescription disposition. From various kinds of marketing approaches, companies create brand values that add to the promotion of the products. Customer relationship management (CRM) has become a new marketing model enabling business organizations to learn how doctors perceive MRs and other factors affecting such perceptions. Svoboda et al. (2021) proposed that some characteristics in MRs should be further developed to improve the impact of such messages on doctors' decisions.

Grande et al. (2012) also observed that despite increasing regulatory pressure, gift arrived from pharmaceutical companies to doctors still persisted, and its recipients including patients are often aware of such arrangements. The authors explain that gift exchanges can erode patient confidence in their doctors or the healthcare system more extensively. It may have other advantages besides lessening the effects on physicians: The decrease in the number of the physician–industry gift relations means the decrease of influence of the gifts' ability on physician's actions. Gupta and Nayak (2013) have looked at the industry through the lens of Regional Medical Advisors (RMA) who are involved in developing the relationships with the KOLs and ensuring forward unconditional pass through of the scientific information between the medical world and the company. RMAs also fund marketing advocacy and contribute to the formulation of product initiatives.

Another factor that the COVID-19 pandemic affected pharmaceutical companies was the possibility of MRs to reach healthcare providers. According to Darwish et al. (2020), MRs

faced communication challenges especially in accessing healthcare professionals necessary for their work during the pandemic interrupts their work performance. But the lack of co-worker interaction and possible job monotony threatened the employees' job satisfaction during this time; yet supervisor support along with technology use proved beneficial in keeping up the job interest. Ayati et al. (2020) also elaborated on COVID's drastic influence on the health care market and pharma business on the short-term across demand/supply attributes, legal requirements, and telemedicine. Possible long-term implications consist of industry declines, extended embargo for new products, 'going local' in terms of pharmaceutical production and invaluable novelties in ethical issues.

Lastly, the Table 2. The following sums up the many different marketing approaches and methods used by the organizations involved in the promotion of drugs and medicines.

Table 2: Pharmaceutical promotional methods and tools

Medical representatives employment	Medical representatives knowledge	Promotional pricing	Patient Education Program
Literature and reminders	Customer Relationship Management	Endorsements	Gifts and Incentives
Continuing Medical Education	Corporate image impact	Digital marketing	Medical camps

Efficacy of medical representatives promoting drugs

The purpose of drug promotion to the physicians initially aimed at creating awareness as well as dissemination of recent development in the field of medicine. But it has become more of a business that uses forceful and pro-European marketing techniques; resistance to patient care and scientific research. In a study by Mohammed & Kheder, they were able to show that promotional activities of the pharmaceutical companies are responsible for Doctor and Pharmacist's dispensing practices and prescribing patterns. From the arguments developed in the discussion part of this paper, it can be safely said that there is a need to put in place regulations that will protect patient health from the vices of medical representatives in the promotion of pharmaceutical products. There is still more evidence from reports from physicians, the main determinant to its prescription is information on safety and effectiveness of the drugs thereof the frequentation of the drugs' representatives and the costs of the drugs in question.

murshid and mohaidin in their study conducted to determine the effects of four marketing communication activities; drug information provision, brand image, company salespeople, and promotion on doctors' prescribing decisions in Yemen. The research conducted by the authors also showed that though the brand of the drug holds a considerable influence when it comes to prescription decisions, the other factors which include; available drug information, sales promotion, effectiveness of pharmaceutical representatives exert little or no influence on decisions made by the doctors. In similar vein, a work by Aschalew (2019) in Ethiopia assessed factors affecting doctors' prescribing practices, and while respondents' consent that financial inducements and gifts shape medication preference cannot be faulted. Other factors that were established asPlayers in encouraging the doctors to prescribe specific medicines included:

pharmaceutical representatives' competence, the frequency of their visits, and provision of free samples of drugs.

It has been postulated by Al-Areefi & Hassali (2013) that although these interactions are inevitable and are even helpful the conflict of interest always seems inevitable: Several representatives are expected to sell products maximize there sales while, the physician on the other side must always have the patient's welfare in mind. According to their paper, a large number of physicians are dependent on the representatives in matters regarding new drugs and this is has increase fear regarding prescription practice. Sztankovszky et al. (2016) continued the exploration into the interaction between pharmaceutical companies and physicians and found that age and experience bias the representatives' information. Of course, it is less risky to rely on a rep that is older and more experienced to deliver accurate details about treatments and products.

Explaining the problem with the cooperation of pharmaceutical companies and medical doctors Al-Hamdi et al. (2012) underlined that such cooperation should be based on patient's interest and respect to appropriate utility of medicines. Medical representatives should concentrate on providing rational information to the clinician and backup medical science and knowledge. Some doctors think that sales agents should be restricted from practicing while others think that they need to undergo training to partners with doctors. Suriyaprakash & Stephan (2022) agree that findings about the primary factors that determine the ethical behavior of medical representatives are effective motivation and good communication with the immediate bosses. Yanis (2011) also observed that doctor access, relationship, sales conversations and professional knowledge are core factors that determine performance of medical representatives.

Telecommunication encounters between the medical representatives and doctors are less effective than actual in person conferences since there is limited time and large numbers of doctors. As analyzed by Workneh et al., (2016), the author pointed out that there is a problem with decreasing appeal of face-to-face sales team building at a higher cost of maintaining it. Thus, the role has transformed into e-detailing, as discussed by Kwak and Chang (2016) have demonstrated the usage of laptops and tablet computers by medical representative for marketing. Technological tools have become the valuable tools for representatives conventionally through their interactions during the pandemic.

Chhabra et al. (2019) also stressed that a pharmaceutical company brand significantly affects sales and doctor recommendation. Another study by Ion et al. (2021) confirmed that the role of pharmaceutical firms and their representatives on general practitioners' prescription decisions involves corporate reputation as a moderator apart from mediating factors of the medical representatives to doctors.

In his study, Zaki (2014) explained that doctors who are informed by the pieces usually favor more branded drugs and are most progressive to new medications. Certain research works have found out that, medical representatives do have an impact over the decisions made by physicians. It is recommended that medical and pharmacy degree courses should contain the ethical promotion and how to reduce bias while interacting with representatives. In general, data still shows that medical representatives remain the best promotional strategy used by pharmaceutical firms.

Authors	Findings	Variables
Narendranathan, Narendran, & (2013)	Physicians' brand preference is influenced by pharmaceutical companies' marketing campaigns.	Strong rapport with the physician, lunch meetings, the company's standing, the caliber of the medication, and the brand name.
Albarq & Suleiman, (2021)	Public relation was the most important strategy	public relation and the use advertisement techniques
Mohanty Narayan, & Kumar, (2020)	Companies in the pharmaceutical industry can influence prescribing behavior through their promotional strategies.	promotion of drugs, Marketing techniques
Adamu, & Negash, (2010)	Doctors' prescription behavior is significantly impacted by sales promotion and sales personalities.	promotion of sales and selling personality
Solanki, Krunal, &Inumula, (2021)	Promotional details from representatives, medical camps, and conditions in medical education are all crucially important to customer relationship management.	representatives from the pharmaceutical company, medical camps, ongoing medical education, and customer relationship management
Murshid, & Mohaidin, (2018)	Prescription decisions were found to be influenced by the marketing campaign.	the available medication, sales promotion, and the effectiveness of pharmaceutical company representatives.
Aschalew, (2019)	Strong agreement with the availability of the products to be advertised in light of their significance in medication selection	monetary rewards and complimentary samples.
Ting, Idris, Ismail, Bahri, Sidek, & Sohot, (2019)	One significant determinant of the product's use and purchase was determined to be the decision to buy, particularly the assessment of the product's features.	characteristics of the product and the choice to buy.

Research Gap

In point of fact, the price related to the discovery of these drugs is considerably less than the outlay incurred on promotion and marketing of these drugs. The literature survey helps to identify a number of determinants and approaches, including those described above, that impact on doctors' prescription choices most importantly, MRs' visits. For the most part, most research is restricted to the dealings between doctors and drug makers, especially the involvement of MRs. However, more extensive research is evidently required to discuss how the other promotional strategies interplay with the MRs when dealing with the physicians. The existing variables include the qualification and years of service experience of the MRs, the capacity of the MRs to convey information in the limited available time as well as the extent to which they adopt the use of the available digital gadgets during meetings with the doctors. These elements are meso-level features of pharmaceutical promotion that can modify a doctor's prescription behavior. Although these aspects are written about separately in the literature concerning various goals, the synergy and accretion of these micro-processes do not receive attention. The end result is that there is a literature gap, which has brought into question the actual effect of the pharmaceutical marketing strategies on doctors' prescription behaviour.

2. Conclusion

It is understandable that physicians select a narrow number of drugs within a therapeutic class.

This tendency is credited to two main reasons. The first is clinical experience, where doctors get acquainted with particular drugs, and persist in prescribing them across other patients. The second one is the marketing of drugs and medicine. The Indian pharmaceutical industry is heading for a healthy growth in the years to come because of one reason or the other. As for prescribability in the fields of pharma and healthcare, dynamics of prescribing where physicians are the buyers for pharmaceutical businesses are influenced by a web of players. Using data from India, Bala & Sharma (2019) prove the importance of MRs for pharmaceutical marketing because, through their outreach, they persuade doctors toward prescription patterns beneficial to pharma firms. In another research conducted by Hailu et al.; (2021) have established that promotional techniques including company sponsored CME, information from MRs, frequent MR visit and promotional drug brochures about a specific product affect doctor's prescription. In addition, more than 61% of physicians said that promotion information from pharmaceutical firms affected their prescribing decisions to some extent (Narayan et al., 2020). Even though MRs continue to be the most common and highly effective tools of pharmaceutical marketing, importance and contribution of the other existing and developing promotional techniques cannot be denied. There is therefore need for additional empirical research to evaluate the total impact of these strategies, and examine how they are interrelated with other factors influencing prescriptive behaviour.

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