

How Pharmaceutical Marketing Manipulates the Prescription Pattern of Physicians? A Grounded Theory Study

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This study aspires to scientifically understand the influence of pharmaceutical marketing on the prescribing patterns of healthcare professionals in Pakistan and their ethical considerations. The discipline of marketing is a principal tool used by the industry to induce prescriptions from physicians and significantly affects the purchase, dispense and use of drugs. This abuse of drugs is responsible for the arousal of “superbugs” where the micro-organisms are immune to antibiotics and the subsequent “antibiotic apocalypse” is an emerging threat. If not prevented, it may cost up to a million deaths and \$100 trillion lost to the world economy per year which will be a colossal loss. Notwithstanding this necessity, there is little research on this issue from the vantage of marketing ethics. This paper fills the knowledge gap. The population is comprised of physicians, pharmacists, sales managers, and relevant statutory body’ employees and from whom in-depth interviews were conducted to collect data. Grounded theory is applied as a method of inquiry to produce contextually robust comprehension. The data analysis through a proper coding process revealed that unethical behaviours of the industry are the principal reasons for deceptive marketing practices and compel physicians to accept gifts and other cash from marketers and generate prescriptions not on robust scientific evidences but on a commercial basis. Consequently, the misuse, overuse, or even abuses of drugs are evidently common in Pakistan which has manifested in the form of antimicrobial resistance. The contemporary grim situation can be

overhauled if the key stakeholders, particularly industry and physicians behave ethically and comply with codes of conduct developed by international and local bodies.

Keywords: *Pharmaceutical Marketing, Critical Marketing, Ethical Marketing, Stakeholders' Theory, Codes of Ethics*

Introduction

Communication is indispensable for an organisation's viability and value creation (Prins & Verhoef, 2007). The discipline of marketing is responsible for communicating and delivering value to customers by keeping in view the larger interests of society. However, in real-world practice, marketing breaches ethical lines in the exchange process and might favour profits over society's long term benefits (Jones et al., 2007). Marketing and society are interconnected and significantly influence each other. Marketing is inextricably connected with economic growth (Kinsey, 1982), but at the same time is a bad name as well. Deception and exploitation are other names for marketing because the discipline is responsible for promoting materialism and over consumption (Hastings & Saren, 2003). The principles, strategies and tactics, and outcomes of marketing are under scrutiny and criticism. Nevertheless, constructive criticism helps to affirmatively connect both society and discipline.

The overriding focus of marketing on instrumentalism rather than critical reflexivity (Clifford, 2007); overemphasis on narrow managerial priorities and consumer self-interest; complacency in handling environmental issues; intellectual shallowness by not developing theory; and stress on quantitative modelling are the imperfections which need to be critiqued (Alvesson, 1994; Tadajewski, 2006). Nonetheless, criticism on these avenues will not only improve the intellectual capacity but will boost credibility in the marketplace. The critical perspective of marketing becomes much more important in some industries like food, pharmaceuticals, and tobacco.

It is more likely that critical marketing discipline will be employed in situations like tobacco and pharmaceutical drug promotion. It is marketing that is responsible for the smoking of adults in society. It is for this very reason that WHO and other international organisations have completely banned the promotion of tobacco products in all member countries. The overuse and even abuse of antibiotics is also attributed to marketing. The human race is very close to the pre-antibiotic era by misuse of this wonderful drug and failure to innovate. Nevertheless, pharmaceutical marketing is equally blameworthy of over-promotion and inability to allocate proper R&D budgets for new molecule development.

Problem Statement

This study investigates the ethical issues associated with pharmaceutical marketing strategies that directly or indirectly affect the relevant stakeholders. Aggressive promotional strategies and marketing programs are the linchpins for the misuse and overuse of pharmaceuticals, particularly antibiotics. Consequently, all bacteria are immune to antibiotics and they cause untreatable infections. Thus, bringing marketing strategies under the ambit of ethics and morality is the need of the time. The acquiescence of ethical behaviours is necessary for circumventing the side effects of antibiotics.

Research Questions

1. How key stakeholders perceive the commercial practices of pharmaceutical marketing?
2. Why they behave unethically?
3. What are the effects of pharmaceutical marketing on different stakeholders?

Literature Review

The origin of critical marketing is from the critical theory that stems in the 1930s from Frankfurt School, Germany (Burton, 2001). However, the scholarship of critical marketing appears in Hansen's research work (Tadajewski, 2010). Marketing and advertising both were involved in unethical and immoral activities in the 1960s (Nwachukwu et al., 1997). The discipline is criticised for promoting overconsumption, uneven distribution of wealth, and not protecting consumers' rights. Owing to the current repercussion of marketing on society and scant resources, both the public and academia are sceptical. Therefore, marketing behaviours and their consequent outcomes are continuously under observation and scrutiny.

Corporate managers overlook and supersede ethics and morality in business activities in their pursuit of stretched targets. Over-marketing is executed in the form of product differentiation and pulling the consumption upward for achieving financial and commercial objectives. In both scenarios, the consequences are ruthless use of scant resources and environmental deterioration. Therefore, a radical change is required in consumption and sustainable lifestyle to turn down their impact on this mother earth. Critical marketing can be applied to situations like this to bring behavioural changes in consumers for more sustainability and responsibility.

Marketing managers employ manipulative strategies to make products and services attractive for consumers and purchasers. They expand their needs and drive them to over-consumption. Products are enticed and enriched by either adding features required to customers or deleting benefits not needed to them. Nonetheless, encouraging consumption not only creates health-related issues but also uses resources faster than the renewal. The same behaviour is employed in pharmaceutical marketing and accelerates the use of drugs, particularly

antibiotics, which has led to antibiotic resistance and making these wonderful drugs worthless. The use of antibiotics in hospitalised, outpatients, veterinary, and agriculture is indiscriminate, making them immune to bacteria. This is an emerging predicament and needs an investigation from a marketing perspective.

Marketing ethics is a branch of business ethics that focus on the study of moral standards applied in marketing to improve institutional, decisional, and behavioural dimensions (Jones et al., 2007). It is a societal perspective which is to deliver superior value to target markets while preserving the wellbeing of community (Kotler & Armstrong, 2010; Kotler et al., 2015). However, marketing is vulnerable to ethical abuse due to enormous pressure for the accomplishment of commercial objectives rather than long-term societal interests. In the context of the healthcare business, the objectives of marketing should be value creation for ailing humanity, not profiteering.

Marketing is a vital component of the pharmaceutical industry. It significantly helps physicians and patients provided they support quality and resource-efficient treatment. However, it holds back the adverse effects which are not in favour of the drug's commercial objectives while overstating the features and benefits in front of doctors and other purchasing authorities. The overarching goals of public health are to provide cost-effective therapeutic agents with good safety profiles but contrary to that commercial objectives are dominant. The US department of justice recovered US\$10.5 billion dollars from the industry from 2009-2012 for their poor compliance (Mulinari, 2016). Major companies were Pfizer and GlaxoSmithKline who have encouraged off-label usage and undermine the side effects. The sales promotion activities and tactics adopted by medical representatives are obscure and difficult to document.

Inappropriate payments and gifts provided to healthcare professionals are non-compliant with laws in Europe and America and both parties are penalised according to their laws (Shaw & Whitney, 2016). Similarly, the local guidelines also prohibit gifts or any other inducements to influence and trigger prescriptions, purchase, and use of prescription medications. A "Consensus Framework for ethical Collaboration" among different stakeholders, particularly physicians, the pharmaceutical industry and patients' rights support groups is a significant development that took place in 2014 from the world medical association. The objective of the consensus is to ensure patients' wellbeing and improve the efficiency of the healthcare system. The Pakistani industry is working on the same lines, to safeguard patients' rights by providing quality medicines at affordable prices; keep physicians enlightened regarding latest developments in therapeutics; and strengthen the industry by appropriate ROI to keep and maintain the R&D process.

Methodology

The approach adopted for this study is qualitative in nature. It has the capacity to explore the different dimensions of ethical behaviours expected from physicians, marketers and employees of government institutions. Data was collected through unstructured interviews; analysis is executed by the deployment of grounded theory; and the inquiry was pursued in a natural setting (Creswell & Creswell, 2017, p. 117). In this inquiry, a qualitative approach is more appropriate (Eisenhardt et al., 2016) because there are limited studies on the role of pharmaceutical marketing on antibiotics resistance; it looks to this construct from the critical marketing perspective, and finally more insights are needed to intervene in policy matters and rectify the current unethical practices. The most important feature of qualitative research is to frame the phenomenon into open-ended questions for new facets of development. This is a naturalistic inquiry (Agee, 2009; Birks et al., 2008), therefore, the findings of the study are more meaningful and epistemologically commensurable with the readers' experience. Nevertheless, grounded theory (GT) is used as a strategy of inquiry.

Grounded Theory

Barney Glaser and Anselm Straus were the pioneers of this theory and since its inception the theory has been widely used in different settings. It possessed the capacity to systematically generate theories for different social phenomena (Glaser & Strauss, 1967). Some prominent authors such as Hunt and Dholakia have suggested marketing scholarship to adopt such insightful methodology for more comprehensions and understandings. In the discipline of macro-marketing, grounded theory fulfilled the desired requirements (Malik et al., 2019; Malik et al., 2020), and has significantly contributed. Hence, the researcher adopted this prominent method of research in exploring the ethical issues in the marketing strategies of pharmaceutical companies.

Grounded theory methodology is a complete package for studying human behaviour. Most of the research questions are starting from why, what, and how the researcher applied GT in his research. The grounded theory method answers the questions of why what, and how (Charmaz, 2008; Glaser et al., 2013). It is used to collect data, analyse that data, and then leads to formal theory building (Walker & Myrick, 2006). Grounded theory research "is a continuous process of data collection, followed by analysis and memo writing, leading to questions, that lead to more data collection, and so on" (Corbin & Strauss, 2014, p. 197). But nevertheless, GT is a complete package for studying human behaviours and since the majority of the research questions are what, why, and how, it has the potential to answer them. Data collection was taken place in hospitals, drug regulatory authority offices, and pharmaceutical marketing fields and offices.

The constructivist paradigm of grounded theory is workable in a specific sequence (Denzin & Lincoln, 2008). It believes in relativist ontology which means that there are multiple realities

in the universe, subjectivist epistemology which emphasised that knowledge is the result of co-creation between continuous interaction of inquirer and participants, the methodological procedures are applied in the naturalistic environment where the participants experience the problem or issue and finally, the findings of the inquiry are presented within the ambit of GT criteria. Thus, the researcher possesses a relativist ontological stance and subjectivist epistemological stance.

It is pertinent to note that the social constructivist paradigm is employed to construct theory from the experiences of the participants by their reflection. Physicians, marketers, pharmacists, and drug regulatory authority employees were selected for interviews and data collection so that they share their experiences, understanding, and knowledge about the current practices of marketing, physicians' behaviours, and the relevant legal framework of concerned statutory bodies. Notwithstanding, the researcher possessed a relativist ontology (multiple realities in the universe) and subjectivist epistemology (theories are generated through the interaction of participants and researcher in a naturalistic environment) (Denzin, 2005, p. 32). Therefore, the constructivist grounded theory is supporting in finding insights about a phenomenon inductively and knowledge is produced from the experiences and constant interactions of researcher and participants.

Sample Framework

Doctors, pharmacists, marketers from the pharmaceutical industry, and DRAP employees are the target population and from them equal numbers are selected for in-depth interviews. It is noteworthy that antimicrobial resistance is developed in patients who used drugs on the advice of physicians, and pharmaceutical marketers are the main instigators of overuse and misuse of antibiotics. So, there are five key stakeholders: patients, physicians, pharmacists, marketers, and DRAP employees. Hence, the stratified purposive sampling technique is more appropriate to collect rich data. The objective is to select only those candidates who have the right data and information regarding the research phenomenon (Symon et al., 2016). This practice has brought reliability and validity to data. The researcher executed 20 interviews, five from each stratum, through an unstructured manner which were later analysed by the canons of grounded theory. In qualitative research, the researcher usually reached saturation in between 20 to 30 interviews (Charmaz & Belgrave, 2012; Edwards & Holland, 2013, p. 66). The inquirers got saturation in 20 interviews.

Field Interviews

The primary objective of GT is to glean rich data from the participants (Charmaz, 2014). Initially, 5 interviews were conducted with physicians, pharmacists, drug inspectors, and marketers to derive categories, subcategories and then developed themes. Verbatim transcriptions were prepared from the interviews in word files for analysis. They were analysed through step-by-step coding which is a system of construction, deconstruction, and

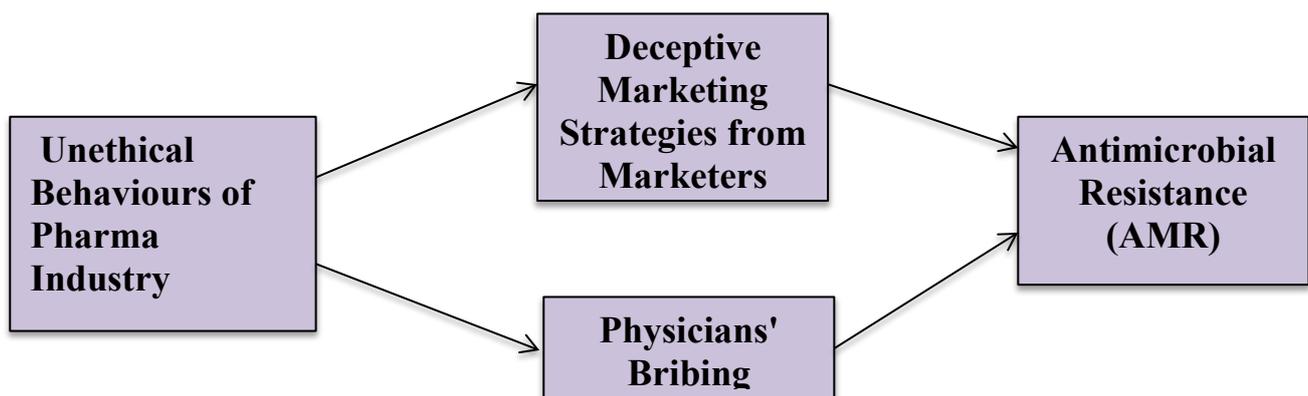
reconstruction of data obtained insights from them. In these pilot interviews, a single theme with two main categories is developed.

Coding and Analysis of Data

Data was named and categorized which is the critical part of GT and is started after carefully studying the data in raw form i.e., word files. The data was broken down into distinctive dimensions through open coding, which resulted in primary categories. The categories developed here are shifted to an excel sheet to find a relationship among them which is axial coding. The coding process has produced bones from the raw data through microanalysis and they were consolidated to build a firm and functional skeleton. The inquirer started the analysis with an open mind and has put aside preconceived ideas, assumptions, and vested interests through bracketing (Starks & Brown Trinidad, 2007). This self-reflective process removes biases in the inquiry.

Data Analysis and Discussion

The findings of the study are encapsulated in a single theme and two categories which are logically interconnected. Unethical behaviours of the pharmaceutical industry are manifested in the form of deceptive marketing practices and coax and cajole physicians on bribing. These questionable behaviours promote deceptive marketing practices and encourage physicians to bribe and use drugs on the basis of personalised activities rather than a solid evidence base. Consequently, both marketers and physicians who are the principal stakeholders deprive patients of the basic optimal treatment. Antibiotic resistance is a global phenomenon and needs collective efforts to effectively handle it. The whole process is shown in the flow diagram.



Business ethics is a set of moral and ethical principles that usher and shepherd values, behaviours and decision at individual and organisational levels (Mayo & Marks, 1990). Ethical organisations incorporate integrity among employees and obtained trust of stakeholders particularly investors and interest groups (Abela & Murphy, 2008). The importance of ethics varies from industry to industry, and in the pharmaceutical industry the

importance increases many fold. The business practices of the pharmaceutical industry are directly linked to human health. The association between ethics and business ethics has a great significance in this industry (Martin et al., 2011). Therefore, foregrounding ethics in pharmaceutical business practices will add value not only to the existing literatures but will help in self-regulation.

Pharmaceutical marketing is the linchpin to the organizations because it communicates the features and benefits of pharmaceuticals to key stakeholders particularly doctors, purchasing authorities and paramedical staff (Malik et al., 2019; Vitell et al., 1993). They apply different marketing strategies and tactics to make right positioning of their products and services, thus, disseminate the product related information in such a way that it conspicuously influences the prescription writing (Malik et al., 2016). Nevertheless, the discipline inspires and allures the products and services so immensely which increases its use, misuse.

Unethical Behaviours of Industry

The pharmaceutical industry of Pakistan is highly competitive, so marketing is a critical differentiating component of the organisation. It devises promotional strategies that bring about optimal output with minimum exhaustion of resources. They have a narrow focus on increasing sales volumes by increasing product patronisation from physicians. They have set aside the larger interests of society. They have expanded the boundaries of treatment for patients to increase drug usage. However, some pharmaceutical companies have good adherence to local and international SOPs and are involved in ethical business activities.

“Multinational companies don’t manipulate data but local do....” (R12, line#313).

Drug Incentivisation

The industry has experienced phenomenal growth in the first decade of the 21st but is currently struggling in maintaining growth and profitability due to the lack of blockbuster products, early patent expiration, and the threat of price control. Therefore, to reverse the waning growth, pharmaceutical marketing vigorously and deliberately engaged in making the products more enticing by attaching with them lucrative financial and non-financial incentives. They spend 20-25% of sales on marketing activities which is a huge amount (Windmeijer et al., 2006). In the name of patients assisted program, they increase the use of drugs. Financial incentive in the form of bonus schemes and per-pack pecuniary attractions is offering to push the drug sales and make hefty profits for the big corporations. Such inducements increase the irrational patronisation of drugs and has resulted in serious consequences for public health (Van Boeckel et al., 2014). Inevitably, antibiotic overuse produces iatrogenic side effects in the form of antibiotic resistance and the quest for antibiotics of last resort is burgeoning day by day. The potential hazard of high volumes of

sales is exhibited in patients in the form of AMR and raises sustainability issues in pharmaceutical sales practices. From the vantage point of some respondents:

"...selling more drugs is interpreted in greater side effects if the use is not prudent. Antibiotic resistance in community has a counterproductive effect" (R3, line#185).

Over-Promotion

The majority of the marketers are either pursue their over-ambitious objectives or operate against the entrenched competition. They design marketing campaigns to engage doctors and build relationships that reciprocate in the form of prescriptions (Fisher, 2003). The overemphasis on marketing and promotional activities to physicians erodes the sacred doctor-patients relationship. This may trigger the demand for drugs against the absence of basic needs. Secondly, materialism is at a pinnacle at both owners' and marketers' ends. They bleed their resources for grabbing market share from other competitors. The commercial objectives supersede the social and ethical dimensions. If the products are antibiotics, then their imprudent use may cause antimicrobial resistance (Greenhalgh, 1987).

"They are emphasizing more on promotional activities to compel physicians for quick and unwanted prescription" (R3, line#63).

Over promotion may decrease the price elasticity of demand and physicians become less sensitive to high price drugs. The medical representatives of the industry involve the doctors in activities that advising drugs with price skyrocketing doesn't matter.

"Physicians who are involved in giving and take from industry are not sensitive to high price drugs" (R6, line#211).

Marketers' unethical behaviours in the form of drug incentivisation and over-promotion are the leading causes of irrational prescription from physicians. In advanced nations, more than 40% of prescriptions from healthcare professionals, particularly that of antibiotics, are inappropriate and are the single driver of antibiotic resistance (Fleming-Dutra et al., 2016). Nevertheless, attenuating the inappropriate practices in the healthcare system will ultimately overcome the chances of antibiotic resistance and other drug-related adverse effects. This theme is commensurable with previous studies.

Deceptive Marketing Strategies

Spending on prescription drugs in the United States of American was \$457 billion in 2015 which exceeds the R&D budget. Therefore, it is a highly attractive market for the pharmaceutical industry. The increased cost of marketing drives up the prices of drugs and diminishes the welfare aspects for ailing humanity (Windmeijer et al., 2006). Pharmaceutical

marketing lays out the foundation for innovative ideas to recover R&D expenditures and assists physicians to make informed decisions about drug prescriptions, and guide patients regarding better outcomes and treatment options. However, the opponents think that marketing strategies of the industry are profligate and may lead to misuse and overuse of drugs in unwary and injudicious prescriptions from physicians (Kremer et al., 2008). There is a myriad of evidence that pharmaceutical marketing is illicit and fuels undue influence on new drug development, regulations, and consumption patterns (Mulinari, 2016).

“...they do over marketing by highlighting only indications and overshadowed contraindications and side effects which are detrimental for patients” (R5, line#55).

Magnifying Positive Aspects for Commercial Ends

The primary aim of medical representatives is to communicate drug-related information to the targeted customer to aid in informed decisions. It is their obligation to assist physicians in rational decisions about drug selection in prescription. But nonetheless, they focus more on the drug benefits and less attention to adverse effects.

“...they do over marketing by highlighting only indications and overshadowed contraindications and side effects which are detrimental for patients” (R5, line#55).

This may (un)intentionally lead to misuse and abuse of drugs, particularly antibiotics. Obviously, antibiotic resistance is the principal cause of morbidity and mortality and is an economic cost for society. The susceptibility of bacteria drastically decreased and patients were hospitalised for a longer period of time.

Personal Obligations

Key opinion leaders have considered being the change agents in pharmaceutical sales. They not only patronised company products but influence their peers as well which brings a snowballing effect in product sales and usage. Therefore, the industry keeps a close eye on them to ensure their support for the company (Sismondo, 2008, 2013). The positive nexus of physicians and industry is rational for patients' facilitation (Jibson, 2006). Therefore, companies offer personalised services to KOLs and oblige them to reciprocate. Extravagant giveaways, free meals, CME, and free samples are the few they offer. They are the crucial strategies for directly influencing their prescription habits.

The current trends in pharmaceuticals promotion are not robust evidence but something in materials to offer. Therefore, the majority of companies offer personalised services to top-notched physicians to gain their support in product patronisation. One sales representative vehemently asserted in these words:

“...but we are failed to persuade doctors on the basis of evidence and studies because they are addictive to personal obligations. They always ask to do something personally for them” (R11, line#146).

Skewed Scientific Data

The pharmaceutical industry is accountable for discovering, and developing drugs to prevent, diagnose and cure diseases. However, market competition, complex regulations, and physicians' attrition compel them to market products to healthcare professionals. That's why medical representatives and marketing teams have a crucial role in organisations. The industry around the globe spends more on marketing and sales activities than R&D. Medical representatives take the support of references and authentic data and present in front of doctors for persuasion. However, the data is skewed and manipulated to fit in products' favour. Owing to these malpractices, the IFPMA's initial codes of ethics were based on the provision of the correct information on the effects and adverse effects to healthcare professionals. Even the CMEs are arranged for doctors with a vested interest to produce prescriptions of their products which tarnish their credibility. The entire edifice of robust-evidence-based medicine is changed by current commercial marketing practices.

“Local pharmaceutical companies overstate product related data and physicians have no check and balance” (R12, L#329).

It is noteworthy that rational prescription is based on scientific shreds of evidence and the advised medicines are best suited for them. However, in scientific trials, the negative effects are concealed and spanned, to best serve the commercial objective of the organisation (Spielman & Parry, 2010). Some physicians observed that the references used are outdated and obsolete.

“...Either the references are too old or of low standard. They are not from standard journals”

But nevertheless, MNCs have ethical practices and operating according to the SOPs of their parent companies.

Physicians' Bribing

A strong relationship was found between the drug prescription and industry investment in physicians. The industry is involved in corrupting medical professionals. The phenomenon is worse in developing countries due to a poor re-enforcement mechanism of laws. The respondents of this study also vehemently criticised the current practices of physicians and their attitudes towards patients. The bribing behaviours of physicians are manifested in irrelevant prescription and encouragement of patients for overuse of drugs which may lead to

adverse effects (Respondent2, Respondent3). It is evidently seen that physicians advise a broad spectrum of antibiotics for minor infections (R4, R10). Owing to this attitude, patients are sceptical about the dubious physicians' behaviours and they considered them as agents of industry (Wei & Delbaere, 2015). Nevertheless, there is burgeoning evidence that the promotional communications of the industry are significant influencers of physicians' prescriptions.

In the developed world more than 45% of antibiotics prescribed to patients are unnecessary. Similar trends are observed in Pakistan as well because the overuse, abuse, and illicit use of antibiotics are common. Another contributing factor in iatrogenic side effects is polypharmacy which leads to drug-drug interaction, antibiotic resistance, and economic loss in patients (R11). The industry-physician interactions have lost their value for patients as they give primacy to their commercial gains not social or patients' benefits. Bribing of physicians is not a new phenomenon because a myriad of previous literature is available (Malik et al., 2019). Conflict of interest arises when doctors prescribe medicines on the pretext of commercial objectives.

The respondents conspicuously asserted that physicians' prescriptions are unnecessary and encourage excessive use of medicine for their personal gains

"Companies personalized services to doctors lead to inappropriate prescriptions and imprudent use" (R3 line#117, R2 line#49).

Logical and rational antibiotic therapies are prerequisites for patients' and physicians' success, but nevertheless, the current use of antibiotics is imprudent and directly proportional to antimicrobial resistance. The prescription generated from physicians is inappropriate and may need immediate correction.

".....doctors are advising antibiotics in unapproved indications which increase the chances of antibiotic resistance" (R4 line#141, R11 line#34).

The quality and standard of healthcare in Pakistan are debatable. Although there are numerous improvements in recent years, overall mismanagement, lack of human and financial resources, and corruption have made it useless. Therefore, there is an urgent need to reform the current system from the bottom, middle and top. The system should be reformed by putting an end to quacks practices, the compliance of pharmaceutical marketing with ethical and moral guidelines and the enhancement of physicians' adherence to the code of clinical practices. One of the respondents suggested....

"The phenomenon of antibiotic resistance is a complex trend that needs to be reformed from the base, middle and top. From the bottom we need to abolish quacks, in the middle, we



should work vigorously to formulate guidelines and from the top, we shall correct the behaviours of doctors" (R12,line#34).

Pharmaceutical marketing is the information continuum that transforms research into therapeutic tools which make it valuable for not only physicians but for patients and the entire healthcare system (Levy, 1994). It is the primary obligation of the industry to ensure integrity, clarity and transparency in all communications with healthcare professionals. But nonetheless, the transgressions of marketing have tainted the image of the pharmaceutical industry and physicians and roll back the rights of all stakeholders including patients. Questionable marketing practices of the industry are the leading causes of non-evidence-based use and overuse of drugs which increased medical expenditures (Kesselheim et al., 2011). It has deterred the regulators in Pakistan and their mechanism to remove the unethical behaviours of concerned stakeholders.

Antibiotic Resistance and Contemporary Developments

The study demonstrates that marketing and physicians' unethical approaches are playing a role in developing antimicrobial resistance. We are at the threshold of the post-antibiotic era where ordinary infections become difficult to manage and it is a product of resistant bacteria and a lack of new antibiotics. There is a desperate need to increase prudent use of antibiotics to keep them effective for a longer period of time. It is obvious from clinical guidelines that 20 to 50% of antibiotics prescribed to different patients are inappropriate (Ingram et al., 2012). Recently it has been found that a lack of clinical guidelines; physicians' poor adherence to codes of ethics and malpractices are the principal causes of imprudent use of antibiotics. The social and behavioural aspects of the antibiotics' value chain can only be governed through proper legislation which is only possible if statutory bodies work actively and enthusiastically. It is also the responsibility of the hospitals to work on antibiotic stewardship programs and collaborate and coordinate with global stakeholders to optimise the use of these wonderful drugs. Nevertheless, merely stewardships and conservative program (vaccine, clean water, hygienic food, and other measures for reducing the chances of infections) will not be fruitful alone if antibiotics access and innovation is ignored totally.

Unlike other drugs which are effective for hundreds of years, antibiotics over time loose potency against bacteria. There are multiple challenges in getting through the phenomenon of AMR, of which the most important is the development of new antibiotics, but currently the industry is far behind this objective. Recently on the directives of British PM, an AMR review report was revealed by Lord Jim O'Neill, in which she offered ten recommendations (O'Neill, 2016). In one of her recommendation, she calls for the Global Antibiotic Innovation Fund to fight against infectious diseases. Therefore, a three-pronged strategy of innovation, stewardship, and access is meant to come out of the current crises.

Conclusion

Safe and potent drug discovery, manufacturing, and marketing are the overarching goals for the pharmaceutical industry with the aim of improving quality of life and increasing average life span. In this way, they safeguard the shareholders' wealth and create value in the form of new molecule development. Thus, the larger interests of the society and community are preserved. The pharmaceutical industry is a multi-billion-dollar industry contributing \$1.3 trillion to the world global economy and has provided millions of jobs to society. Likewise, the Pakistani chapter also acts as a catalyst for boosting the economy and creates millions of jobs. Nevertheless, unethical marketing practices are the norms of the industry operating in Pakistan. They are competing with each other in bribing physicians, providing lavish dinners, expensive gifts, and overseas entertainment tours instead of academic trips.

Marketers employ manipulative strategies to induce consumers which result in the overconsumption and misuse of non-renewable resources. They expand current markets by producing large volume sales and profits and thus, increase shareholders' wealth. The current advent of antibiotic resistance is attributed to the misuse and abuse of this wonderful drug and pharmaceutical marketing has a prominent role in it. Marketing as a discipline creates value by informing physicians to prescribe the right drugs in appropriate indication with proper dosage. But nonetheless, the industry used marketing as an instrumentalist tool to expand the boundaries of current treatments and thus, increase the usage of medicines unnecessarily.

However, unethical marketing practices have firmly anchored their roots in the pharmaceutical industry. There is a growing concern over health-related issues that arise from the influence of unethical marketing on drug dispensing. Marketers compromise codes of ethics due to intense sales pressures, poor supervision, and dishonesty in negotiation. The respondents of this inquiry unanimously agreed that corruption is an integral part of pharmaceutical marketing in Pakistan and disparaged the very essence of this discourse.

The essence of ethics in marketing is applying moral principles to the discipline fairly, transparently, and with social responsibility (Bartels, 1967). It builds trust and integrity with customers as well as stakeholders. However, marketing safeguards the interests of shareholders and is a push behind the very community. There is a wide range of literature that criticises the questionable behaviours of both marketers and healthcare professionals (Francer et al., 2014). Nevertheless, both are the primary stakeholders and have the privilege to enjoy many benefits of this position. Physicians, pharmacists, marketers, and drug inspectors were of the view that unethical practices in the healthcare system are very common in Pakistan. The concerned stakeholders have materialistic approaches which compel them to take illicit steps and increase the consumption of drugs for the sake of material gains. Patients receive prescriptions from physicians that are marketing-based not evidence-based. The means to an

end attitude is against the ethical and moral norms, so, it should be avoided in all circumstances.

“...the doctors’ approaches are self-interested, not patients-interests because they only consider money and other material things” (R10, Line#157).

The ultimate objective of the healthcare system is to facilitate patients and overcome their miseries by providing state-of-the-art health services. The very existence of such a system is for patients’ welfare. It is the moral obligation of marketing to engage in transparent and legal relationships with physicians and protect the best interests of patients. However, they do not treat patients as human beings but as a means to an end which is against Kant’s categorical imperative. It is ethical to behave with them like an end, not a means. Nonetheless, the respondents conspicuously asserted that the pharmaceutical industry and physicians exploit patients and used them as means to an end that is unethical, unscrupulous, and immoral. Thus, marketing practices of the industry are absolutely unethical, unhealthy, and illicit in the Peshawar region of Pakistan. As the area remains volatile in the recent past due to terrorism and its proximity to Afghanistan, the reinforcement of regulation is very poor. The compliance of marketers and healthcare professionals is not up to the mark. Thus, medicines are advised on the basis of personal benefits, not patients’ actual needs. Similarly, antibiotics are also prescribed unnecessarily to patients and their outcome is the iatrogenic side effects like antimicrobial resistance.

“.....some physicians prescribe two or even three antibiotics which have no rationality” (R12, Line#146).

The researchers suggested some recommendations for managers and organisations to increase their compliance. Employee training on different laws and regulations and codes of conduct can improve their adherence. Another important suggestion is that the industry must make public drug-related adverse effects and results of trials with integrity so as to build goodwill in the mind of healthcare professionals and other stakeholders.

The relationship between marketers and physicians should be patient-centric, and prescription writing must be based on scientific data. The outcome of this recommendation will be an optimum prescription for patients. Inbound marketing should be adopted to create valuable content for health professionals. The contents created for this purpose will be based on customer relationship management (CRM) which works only if updated at regular intervals. Create brand value that helps in professional development. Fairness, transparency, integrity, and responsibility should be the hallmarks of the discipline to bring relevant practices under the ambit of ethics and morality.



Limitations and Future Research

The influence of pharmaceutical marketing on physicians' prescribing pattern is studied qualitatively, and thus, need to inquire through survey research to make the intervention easy wherever required. This study doesn't develop a proper tool to gauge physicians' prescriptions which may be research in future studies. Furthermore, the researchers suggest that future investigations may practice multiple instruments to investigate the influence of pharmaceutical marketing on physicians' decision to write medicines to patients particularly in the infectious disease state.

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