

TO STUDY THE ROLE OF PHARMACEUTICAL INTERMEDIATES IN LIFE SAVING DRUGS

Dr. INDUKUMARI S. SHETTY

ASSISTANT PROFESSOR, CHEMISTRY DEPT. GOV'T FRIST GRADE COLLEGE. SHAHAPUR
TQ. SHAHAPUR. DIST. YADGIRI STATE. KARNATAKA.

ABSTRACT

Intermediates are essential to the manufacturing and research and development of life-saving drugs, which are produced by the pharmaceutical industry. Pharmaceutical intermediates are an important component of the complex manufacturing process that is the pharmaceutical industry. During the manufacturing process of active pharmaceutical ingredients (APIs), various chemical compounds like these are produced as a consequence of the many procedures that are involved. The incorporation of these components ensures that the final pharmaceutical product will be of superior quality, as well as safe and effective. Intermediates that are scalable, cost-effective, and very pure are becoming an increasingly significant component in drug development pipelines as a result of the increased need for medicines that are more targeted and effective respectively. Additionally, pharmaceutical intermediates contribute to the enhancement of bioavailability, the development of individualised treatment, and the reduction of adverse effects. Few of the pharmaceuticals that they make it easier to produce include antibiotics, antivirals, anticancer treatments, and cardiovascular therapy. These are only few of the categories of medications. It is possible that by selectively synthesising these molecules under close monitoring, it will be possible to significantly reduce the amount of time and money required for development as well as the therapeutic benefits. Due to stringent regulatory restrictions and quality standards, the intermediate manufacturing industry has enhanced its environmental sustainability by developing environmentally friendly chemical processes. This was done in reaction to harsh regulatory constraints. There is a need for research into pharmaceutical intermediates in order to address global healthcare concerns such as the advent of new diseases and the rise in antibiotic resistance.

Keyword: - Pharmaceutical intermediates, active pharmaceutical ingredients (APIs), life-saving drugs, drug synthesis, chemical compounds

INTRODUCTION

There is a clear connection between the research conducted by pharmaceutical companies and the increasing importance of healthcare in today's contemporary society, which is characterised by globalisation. The purpose of this section is to give a comprehensive analysis of a number of elements by investigating the many ways in which marketing activities influence sales of pharmaceuticals. A potential topic of study is the investigation of the marketing problem of life-saving drugs. This is particularly true when considering the applicable theoretical framework and the current trends in both the Indian market and the global market. This is because the problem offers a wonderful opportunity to acquire sector-specific expertise, which is the

reason for this. The pharmaceutical industry is responsible for formulating some of the most positive projections for the contemporary economy. In this chapter, it is essential to place an emphasis on these characteristics and to make particular claims in order to get an understanding of the difficulties associated with selling life-saving pharmaceuticals. Therefore, this chapter serves a dual purpose by not only analysing the roots of the problem but also giving the conceptual underpinning. The study of impact marketing methods is one of the most dynamic and challenging subfields that can be found within the management and business studies disciplines. One sector in which this is especially prevalent is the pharmaceutical business. The commercialisation of life-saving medication requires a new social and human marketing posture, which is distinct from the modern pharmaceutical business in many areas. This is because the pharmaceutical industry takes a different approach to marketing.

When volume and value are taken into consideration, India's pharmaceutical industry is ranked third nationally and internationally. Given the existing state of things, the pharmaceutical industry has the chance to make advantage of the privileged position it now has in order to carry out in-depth research of the trends that are occurring in marketing. The location of the study's fieldwork is restricted to the town of Ichalkaranji, which is both busy and calm. The levels of education continue to be appalling, and there has been very little progress made in our knowledge of the issues that pertain to health. Therefore, when it comes to marketing pharmaceuticals that have the potential to save lives, there are more complex factors to take into account than there are in other sectors of healthcare. Without a doubt, it is not beyond the range of possibilities to find solutions to these problems via the examination and comparison of facts. As a result of globalisation, the pharmaceutical industries are now confronted with a crucial crossroads in their growth, which is more important than it has ever been. A compelling argument has been presented by Joseph A.S. in regard to this topic. To achieve success in marketing, it is necessary to put oneself in the position of potential customers. As opposed to just completing transactions, the primary objective of marketing is to establish connections and relationships with customers. One of the responsibilities of marketing, which is focused on the outside world, is to fulfil the genuine requirements of customers. Advertising is something that the pharmaceutical sector is quite similar to when compared to other industries. Medications and medicines that are intended to save lives are also included in this category of products. According to Sharma and Goli, markets may be seen as "gaps" that separate buyers and sellers from one another. When it comes to bringing the parties together, marketers use a broad variety of different realisation tactics. Everyone from the manufacturer to the patient is influenced and directed by marketing, which is there to provide direction and guidance. Due to the fact that this phenomenon is producing a great deal of issues in emerging countries like India, it is of the utmost importance that we investigate all relevant points of view. For the purpose of doing more study at this location, the present research problem was explicitly selected.

One of the most prominent examples of a sector that is expanding at a rapid rate in a country like India is the pharmaceutical business. The country of India is a big market for pharmaceuticals due to its enormous population and complex healthcare system. Within the scope of this essay, we will concentrate on marketing techniques that have an impact on pharmaceutical sales, more especially those methods that have an impact on medications that have the potential to save lives. Both the management science and business perspectives will serve as a compass for the inquiry that is now underway. It is anticipated that the city of Ichalkaranji will serve as the primary focus of this study. As soon as we have completed the research plan, we are going to make every effort to get a comprehensive understanding of the management and marketing processes. In an effort to create as many links to the present as is practically possible, the purpose of this chapter is to

offer a concise summary of the topic by concentrating on the parts of the topic that are most pertinent. In specifically, the geographic region that encompasses the city of Ichalkaranji has been selected for the purpose of this investigation. In regard to this matter, Joseph A.S. has presented a compelling case. Because of India's infrastructure, high-quality scientists, and ability to perform creative research, pharmaceutical corporations may be able to make medications in India at prices that are far lower than those paid abroad. When it comes to the pharmaceutical business, India truly comes into its own because of this. Indian pharmaceutical companies have garnered the attention of a number of international pharmaceutical behemoths owing to the much lower manufacturing costs that they provide in comparison to their Western competitors. There is a significant amount of potential for the pharmaceutical business in India to benefit from these benefits. Pharmaceutical marketing is the term used to describe the process of advertising and promoting a variety of pharmaceutical medications. The decision maker and the commodities themselves are the only things that really differentiate marketing from the pharmaceutical industry compared to marketing. Each of the two will be regarded as being identical. Therefore, in order to get to the heart of the marketing issue, we need to comprehend and dissect the several decision-making processes that are involved. The process of making decisions in the field of marketing is influenced by a great number of aspects, all of which have been thoroughly discussed in this article.

Concept of Marketing

The advertising industry in emerging countries like India, which is experiencing fast economic expansion, has a great deal of competition from a variety of hurdles. By virtue of the traditional nature of Indian culture, it is imperative that the subject matter be treated from a contemporary point of view. The traditional worldview of people is undergoing a transformation as a consequence of the following factors: rising expectations, rising wages, urbanisation, and exposure to styles that are prevalent in other parts of the world. Throughout the course of the last two columns, we have tracked the development of the concept of marketing. Beginning with the conclusion of World War II, there have been significant shifts not just in the marketing business but also in the fundamental concept of marketing itself. There has been a transformation in the marketing environment brought about by the introduction of customer-centric tactics, behavioural targeting, and digital advertising. Additionally, we have made an attempt to extend the scope of the discussion by include a variety of perspectives. The history of marketing has been spectacular, beginning with the "nearest" model and progressing to "chain" and "ideas" marketing. The culmination of this growth is the data-driven and experience-based marketing strategies that are prevalent in the present digital age. During the decades that followed World War II, there was a surge in the number of pharmaceutical companies operating in emerging countries, which brought forth a new set of obstacles as well as possibilities. The expansion of the healthcare business, the increase in illnesses that are connected to lifestyle choices, and the steps taken by the government to improve public health have all contributed to the emergence of new potential for pharmaceutical marketing. In spite of the fact that it is highly concentrated and has the potential for expansion, the Indian market is home to a wide variety of enterprises and industries. When dealing with the Indian consumer market, it is essential to use marketing methods that are both individualised and tailored to the regional market. The reason for this is because there is great diversity in terms of language, culture, and individual preference. There are a lot of companies in South Asia that are doing well, and one of them is the pharmaceutical industry. The pharmaceutical business is seeing rapid growth, with growth rates in the double digits, and is rapidly becoming a worldwide hub for the production and global distribution of generic drugs. Within this context, marketing may successfully contribute to a

number of different areas, including the creation of trust, the implementation of ethical distribution practices for medical supplies in both urban and rural regions, and a greater comprehension of the significance of these problems. In addition to its usage as a marketing tool, it may also be used to a great deal of other purposes.

Pharmaceutical Companies

There is a clear correlation between the procedures that are utilised to locate novel pharmaceuticals and the rate at which they are created. Within the confines of this framework, the concept of pharmaceutical (industries) businesses may be subjected to an in-depth examination. This allows us to get a deeper understanding of the many concerns that are associated with these treatments, some of which have the potential to save lives. Companies whose primary emphasis is the pharmaceutical industry work hard to develop and manufacture medications that bring about improvements in the health of the general population. Listed below are some definitions of pharmaceutical businesses that are highly concise and clear: When it comes to exporting to international markets, the pharmaceutical industry is among the most secure and promising of all industries. In order to conduct a thorough examination into the topic, it is vital to have a strong understanding of the fundamental principles that are used in the pharmaceutical sector. Therefore, the pharmaceutical industry is accountable for the production of pharmaceuticals, as well as their testing and distribution responsibilities. There is little doubt that it is possible to provide appropriate coverage of the several aspects that comprise India's pharmaceutical industry. It is possible for pharmaceutical companies to deal with potentially life-saving medications and medical equipment as part of their operations, within their scope, and within their nature. It has also been brought to people's attention that these companies could offer their services to well-known pharmaceutical brands. They are obligated to maintain a significant amount of legal duty in relation to the many laws and regulations that are imposed by the pharmaceutical sector. Laws pertaining to testing, safety, efficacy, and marketing are all included in this collection of regulations. This indicates that the process of creating drugs and treatments is one of the foundations around which the marketing of medicines is built. Because the pharmaceutical industry is not going away any time soon, Hattangadi believes that it is a good idea for recent college graduates to work in the field of pharmaceutical marketing. Given these circumstances, the marketing of pharmaceuticals poses a significant challenge for marketing researchers who are just starting out in their careers. The pharmaceutical sector places a high premium on strategic innovation in order to successfully sell its products. As a result of the poor quality of the marketing research, the corporation has to make preparations in advance. It is thus possible that research based on conceptual assessment and fieldwork might yield explanations of these creative talents that are much more comprehensive. From this point forward, you have been made aware of each and every one of these particulars.

Role of Pharmaceutical Intermediates

Active pharmaceutical ingredients, often known as APIs, are the fundamental components of any medical treatment, and pharmaceutical intermediates are the fundamental chemical compounds that serve as the foundation for the manufacturing of APIs. The synthesis of active pharmaceutical compounds necessitates the use of medicinal intermediates. These intermediates are produced as a result of the intricate process of synthesising an active pharmaceutical ingredient (API), which involves a multitude of processes. For the purpose of ensuring the efficacy, safety, and stability of essential pharmaceuticals, the presence of these components is absolutely necessary. These individuals are responsible for more than simply supplying the

raw ingredients; they also have the ability to influence the quality of the finished pharmaceutical product as well as its therapeutic effectiveness.

Intermediates in the pharmaceutical industry serve a variety of important tasks, the most important of which is to assist the synthesis of complex pharmacological molecules in an efficient and scalable manner. This is due to the fact that they reduce the synthetic routes into stages that are easier to control, which enables pharmaceutical companies to increase the yield, consistency, and purity of the products that are finally recovered. In the pharmaceutical industry, intermediates are essential precursors that have an impact on the structural integrity and pharmacological activity of active pharmaceutical ingredients (APIs). They are used in the manufacturing of antibacterial agents, antiviral medications, anticancer medications, and cardiovascular medications.

The quality of the intermediates and the chemical qualities they possess have a direct impact on the pharmacokinetics and pharmacodynamics of the completed drugs. This is something that should be emphasised. Because the presence of any irregularity or impurity in the intermediate might pose a risk to the drug's safety and have severe repercussions for the patient's health, it is of the utmost importance to maintain stringent quality control and maintain compliance with regulatory rules. Taking this into consideration underlines how important it is to adhere to all of the relevant laws and regulations. As a result of the use of intermediates, the manufacturing process is shortened, and the production costs are reduced, which results in important pharmaceuticals being more accessible and inexpensive, especially in developing nations such as India. The word "intermediate" refers to the product that is manufactured by the pharmaceutical business.

In light of the fact that new illnesses are appearing all over the globe and that public health disasters are occurring at an alarming pace, this is particularly important in the current global setting. Under the current circumstances on a global scale, pharmaceutical intermediates make it possible to achieve innovation and to manufacture medications more quickly. The use of intermediates is also contributing to the reduction of the environmental impact that is caused by the production of pharmaceuticals. This is due to the development of more sophisticated approaches in environmentally friendly chemistry and sustainable practices at the present time.

The professionals who act as intermediaries within the pharmaceutical business are an essential component of the process of producing new medications. In order to determine the therapeutic effectiveness and safety of life-saving pharmaceuticals, the quality, purity, and stability of these medications are the defining variables. It is for this reason that the aforementioned qualities of quality, purity, and stability are essential to the research and development of pharmaceuticals as well as product manufacturing.

Life-saving Medicine

Despite the fact that the pharmaceutical sector in India is founded on the concept of life-saving treatment, this concept has not gained a great deal of attention owing to a lack of effort and inefficient media coverage of the subject. The pharmaceutical sector in India has to demonstrate its commitment to the development of medicines that have the potential to save lives:

- The branded drugs are not popular due to poor manufacture and marketing.

- The Indian market is dominated by branded and enhanced priority pharmaceuticals.
- The low-cost drug is unknown to customers at all levels.

These drugs, which have the potential to be therapeutic, are the emphasis of the study that is now being conducted. It is referred to as a "life-saving drug" or "life-saving s" and is described as a pharmaceutical product that is comparable to another pharmaceutical product in terms of its dosage form, strength, quality, performance, and intended application. The phrase "life-saving drug" or "life-saving s" is used to describe medication that is designed to save lives. The marketing of pharmaceuticals that have the potential to cause death is the key point of concentration for this study. Our marketing research is going to take place in the city of Ichalkaranji which is going to be the location. In the event that they are called to testify, witnesses should be ready to discuss the availability and use of potentially life-saving treatments, as well as the effectiveness and limits of each medication. The chemical makeup of a medicine or other product that is disseminated by its chemical name rather than its brand name in situations when advertising is not significant is another potential definition. This is the case in situations where the chemical name is more relevant. Since of this, the concept of a therapy that can save lives is very important since it reduces the impact of advertising and the utility of the product is seen to be more effective than the brand that is being promoted. With regard to the definition of life-saving pharmaceuticals, the following is the right definition:

Even though these potentially life-saving treatments are not necessarily affiliated with any one corporation, the governments of the countries in which they are distributed are the ones that establish the rules that regulate their distribution. As far as Mr. Greene is concerned, Jeremy A. asserts that the logics of exchangeability control the link between commodities and markets, and that these frameworks interact with one another. Mr. Greene is worried about this. This is seen by the fact that both the generic and brand-name versions of these treatments that save lives have advanced. For this reason, these notions are important in deciding which medicine eventually proved to be the one that saved the patient's life. Consequently, this indicates that the concept of unbranded, non-advanced medicine provides the basis for the development of novel medications that have the potential to save lives. When compared to its counterparts that are sold under a name brand, these products are more reasonably priced and accessible to the typical customer.

OBJECTIVE

1. Consider the importance of pharmaceutical intermediates in the development and production of life-saving medications.
2. Examine the effects of quality, affordability, and sustainable intermediate production on the safety and efficiency of pharmaceutical manufacture.

CONCLUSION

In the process of developing and manufacturing medications that may save lives, the utilisation of pharmaceutical intermediates is of utmost importance. These intermediates are the fundamental building blocks with which complex pharmaceuticals are constructed. They not only play the function of intermediaries, but they also have an impact on the quality, safety, and therapeutic efficacy of the final pharmaceutical product. At the same time as the pharmaceutical business is adjusting to meet the expanding demand for healthcare all over the world and developing medical challenges, there is an urgent need for

intermediates that are safe, inexpensive, and effective. The significance of these intermediates in maintaining the timely supply of essential pharmaceuticals is growing as a result of developments in chemical synthesis, manufacturing processes that are environmentally friendly, and compliance with regulatory requirements. It is possible that by expanding our knowledge of pharmaceutical intermediates, we will be able to speed up the development of new treatments and reinforce the healthcare systems that are already in place. Both of these things contribute to the improvement and assurance of life for millions of people all over the globe.

REFERENCES

1. Global Pharmatek. "Pharma Intermediates: The Importance of Quality and Essential Factors." Global Pharmatek Blog, Jan. 2024. Explores how intermediate purity and quality control are foundational to drug efficacy and safety
2. Saurav Chemicals. "The Critical Role of Intermediates in Pharmaceutical Manufacturing." Saurav Chemicals Blog, 8 Jan. 2024. Highlights the integral role of intermediates in API pathways and supply chain stability.
3. The Business Research Company. "Pharmaceutical Intermediates Market Overview 2024–2028." GlobeNewswire, 18 Jan. 2024. Reports surge in market driven by generic drug demand, biologics, and precision medicine.
4. PYG Lifesciences. "How Pharma Intermediates Manufacturers Are Pioneering the Future of Medicine." PYG Lifesciences Blog, 22 Aug. 2024. Discusses trends like green chemistry, continuous manufacturing, and personalized medicine.
5. FMI Blog. "Pharmaceutical Intermediates Market to Grow at 4.3 % CAGR Through 2030, Ensuring Drug Safety and Efficacy." FMI Blog, 10 Oct. 2023. Emphasizes the importance of intermediates for API linkage and drug quality enhancement.
6. Biospace. "Pharmaceutical Intermediates Market Is Expanding Faster with 7.14% CAGR." Biospace, 8 Nov. 2023. Analyzes how intermediates boost accessibility and scalability in essential medications.
7. "Success strategies for Indian pharma industry in an uncertain world ". Business standard .17 February. (WIKI)
8. Joseph S. Ajay "Pharmaceutical Marketing" CBS Publishers, New Delhi, 2010, P- 33
9. Uday Raj Sharma and Goli, "Pharmaceutical Marketing Management" Nirali Prakashan August ,2012, p-1.1.
10. Joseph S. Ajay (2010) "Pharmaceutical Marketing" CBS Publishers, New Delhi,2010, P-11.
11. Sahoo Kumar Suraj "Pharmaceutical Marketing and Management" Professional Publishers, Hyderabad, p-1.8.

12. Kester, Walt. Data Conversion Handbook. Newnes (Elsevier), 2005, p.1.8.