

Effect of Covid-19 Pandemic on the Indian Pharmaceutical Industry

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Abstract:- The corona virus pandemic is an ongoing pandemic which originated from Wuhan, China in December 2019. It was declared a pandemic on 11 March 2020 by the World health organization and has affected almost every Industry around the world. This review paper will talk about the positive and negative effects the Covid-19 pandemic has had on the Indian pharmaceutical industry and briefly look at the challenges that the industry needs to overcome. From December 2019 to December 2021, the Indian pharmaceutical industry has seen an increased in demand, exports, investment, collaboration, and growth which can be attributed towards dealing with the pandemic. The increased global healthcare demands have stimulated growth in the industry. However, there have been challenges the industry had to face including the disruptions in supply chain networks, an increase in raw material costs, and slowing down of research and development for new non-covid related drugs. The pandemic has presented the Indian pharmaceutical industry with an opportunity to become ‘the pharmacy of the world’ for which it must overcome the shortcomings that have been exposed during the pandemic. India is the leading manufacturer and exporter of generic medicines in the world but is heavily dependent on countries like China for raw materials and key starting ingredients. Improvements in policy and supply chain networks are required for India to keep up with the growing healthcare needs of the Indian population.

Keywords:- Corona Virus; Pandemic; India; Pharmaceutical Industry.

I. INTRODUCTION

A. Indian Pharmaceutical Industry

Pharmaceutical industry comprises of government and public organizations that discover, develop, manufacture, regulate, distribute, and dispense pharmaceuticals. According to the economic survey 2020-2021 the Indian pharmaceutical industry is valued at 41 billion united states dollars (USD) [9].

India’s pharmaceutical industry is positioned 3rd in the world in terms of volume and 14th in terms of value with an annual turnover of pharmaceuticals worth 2,899,980 million Rupees for the year 2019 – 2020 which is around 1.72% of India’s gross domestic product (GDP). India has the most United States Food and Drug Administration (US FDA) approved plants after USA. Indian pharmaceutical industry includes a network of 3,000 drug companies and around 10,500 manufacturing units. India contributes the second-largest share of pharmaceutical and biotech workforce in the world. [27] India is the leading provider of generic medicines in the world,

occupying a 20% share in global supply by volume, and supplies 62% of global demand for vaccines. [28]

B. Covid-19 and the Pandemic in India

The corona virus pandemic is an ongoing pandemic caused by severe acute respiratory syndrome corona virus 2. The novel virus was first identified at Wuhan, China in December 2019. The World health organization (WHO) declared the outbreak of the Virus as a public health emergency of international concern on 30 January 2020 [29]. The director general of WHO characterized the outbreak of the disease as a pandemic on 11 March 2020. [30]

In India transmission of the virus began with individuals coming from abroad who got infected. The first case occurred on 30th January by a person from Kerala coming back from Wuhan, China. [31] In India, from 3 January 2020 to 1 December 2021, a total of 34,596,776 confirmed cases of Covid-19 with 469,247 deaths have been reported to WHO.

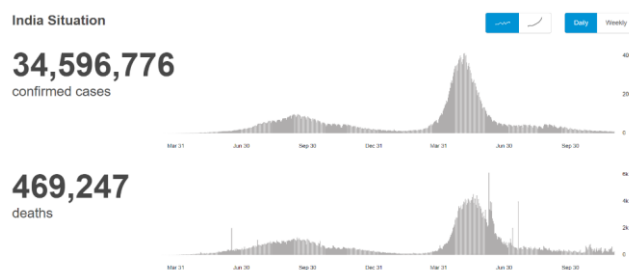


Fig. 1. Covid confirmed cases and deaths in India (32)

C. Effect of the pandemic

Covid-19 pandemic has been one of the deadliest global pandemics recorded in modern history. Corona virus has resulted in widespread mortality, post recovery complications, depletion of mental health, mass unemployment just to name a few things. It brought the economic systems and social life to a standstill. The government introduced nationwide lockdowns which hampered the movement of people and goods. It required an immediate shift in policy and governments around the world to try and manage the outbreak.

II. POSITIVE EFFECTS

A. Increase in demand for pharmaceuticals

As the pandemic spread over India, demand for medicines increased. To improve their immunity the Indian population started consuming various forms of multivitamins resulting in an escalation in demand of Nutraceuticals and ‘Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy’ (AYUSH) products. The growth in sales for Vitamin C escalated from

4.7% in 2019 to 110% in 2020. A total of 5 billion multivitamins, vitamin C and Zinc pills were sold in the year 2020. [3]

As established vitamin, masks and sanitizer manufacturers struggled to keep up with the drastic increase demand in India, small manufacturing pharmaceutical companies took this opportunity to fulfil the demand.

In April 2021, the pharmaceutical industry in India had moving annual turnover of Rs. 1.52 trillion, as compared to Rs. 1.3 trillion in April 2020. [10]

B. Increase investment

When the pandemic caught the world's attention, focus shifted towards the healthcare sector. The government had to increase funding to the support the overburdened healthcare and to curb the dependence of India on China and other countries for its raw materials.

To reduce imports of raw material, In January 2021 the central government announced setting up of 3 bulk drug parks costing 14,300 rupees. Another initiative is the Production Linked Incentive Scheme which is aimed at increasing domestic production of Key Starting Materials (KSMs) and APIs. [1] Department of Biotechnology under 'Mission COVID Suraksha' provided funds for development and manufacturing of vaccines in India for its citizens. [2]

TABLE I. Health and Wellbeing – Expenditure

(In ₹crores)

Ministry/Department	Actuals 2019-20	BE 2020-21	BE 2021-22
D/o Health & Family Welfare	62,397	65,012	71,269
D/o Health Research	1,934	2,100	2,663
M/o AYUSH	1,784	2,122	2,970
CoVID related Special Provisions			
Vaccination			35,000
D/o Drinking Water & Sanitation	18,264	21,518	60,030
Nutrition	1,880	3,700	2,700
FC Grants for Water and Sanitation			36,022
FC Grants for Health			13,192
TOTAL	86,259	94,452	2,23,846

➤ Union Budget Expenditure towards Health and Wellbeing (14)

The Union Budget in India has expanded the budget to be allocated in improvements towards health and wellbeing of the citizens (ref. Table 1). In addition, the union budget has also allocated 641,800 million rupees for 6 years towards 'Prime Minister Aatmanirbhar Swasth Bharat Yojana' and 371,300 million rupees towards 'National Health Mission'. [14]

C. Collaboration

To tackle the pandemic the healthcare industry had to collaborate and tackle the virus. Information can travel at very fast rate in the world with the help of the internet. International organizations such as the WHO were updating the world about new insights as more information was discovered about the novel virus.

Companies came together to research and develop a vaccine. Government also fast-tracked trials and approval process. Oxford and AstraZeneca collaborated to create the Covishield vaccine which was approved for use on 30 December in the United Kingdom. [33] WHO recommended The Serum Institute of India for production of Covishield vaccine. [4] The Serum Institute of India manufactured vaccine for India and other low- and middle-income countries. The Serum Institute of India surpassed production of over 1 billion vaccine doses on 26th November 2021 and credit this achievement to their global partners including AstraZeneca, the Bill & Melinda Gates Foundation, Gavi, 'United Nations Children's Fund' (UNICEF) and WHO. [5]

D. Rise of ePharmacy

India is the second largest online market with over 560 million internet users. [6] ePharmacy is a new digital medium that have allow consumers to buy medicines from the safety of their homes during the pandemic. It has also allowed to bridge the gap of unavailability of medicines in the rural and remote parts of India. After the lockdown ePharmacy have experienced increased demand from Non metro cities which goes to show that ePharmacy have the ability to cater to a large area and provide affordable medicines to its consumers.

With progression of the lockdown ePharmacy experienced a boom in sales on their platform. During the lockdown crisis the Union Home Ministry specifically mentioned delivery of medicines through e-commerce as an essential service. The ePharmacy Industry accomplish 250% growth providing service to over 8.8 million households across India.

ePharmacy have many advantages over regular pharmacies. Investors and consumers have both realized the potential of ePharmacy and show increase in growth potential for the future post-covid. [8]

E. Increase Exports

Covid19 presents an opportunity for India to emerge as 'Pharmacy of the world'. India's biggest advantage is its ability to produces cost effective medicines. Covid - 19 triggered an increase demand of drugs around the world. India's Pharmaceutical exports exhibited growth of 18% reaching total of 11.1 Billion USD for the period of April - October 2020. Pharmaceuticals became the third most exported commodity in India. [9] India exported medicines worth 24.44 Billion USD in the financial year 2020-2021. The growth improved during the second wave when compared to the start of the pandemic when the growth was restricted by shortage of raw material and trade restrictions. [22]

F. Stock performance

During the pandemic, Share prices for pharmaceutical companies and mutual funds that invest in them have performed better than others. [10] Looking at the promising growth in demand for pharmaceuticals in the pandemic by the open market, stocks of major pharmaceutical company grew exponentially.

Investors see the potential in the healthcare and pharmaceutical companies in India. Pharmaceutical companies stand a chance to grow at a fast pace during and after the pandemic. India is believed to become the frontrunner for pharmaceuticals. [11]

The Indian pharmaceutical market grew from 13.7% in July to annual 17.7% in August 2021. This growth is caused by an improvement of Non Covid-19 product sales after the second wave was coming to an end. [12]

The NIFTY PHARMA index which includes stock portfolio of top pharmaceutical companies of India. It can be observed that there has been constant growth in the stock after the market crash of March 2020. On 1st December 2019 the average price was worth Rs.8144, the lowest point during the crash was on 28 March 2020 at Rs.6545, the price has shown constant long-term growth since. On 1st December 2021 It was worth an average of Rs.13581, which is about 66% growth in the 2-year period. [20]



Fig. 2. Performance of NSE NIFTY PHARMA (21)

III. NEGATIVE EFFECTS

A. Decline in retail sales and panic buying

During March 2020, before the first lockdown, performance of retail pharmacy improved as people started panic buying drugs to hoard their regular medications and to prepare for the pandemic. But Retail pharmacy sales started to suffer because of the nationwide lockdown. A drop in sales of oncology, respiratory, anti-infectives, gastrointestinal, dermatology drugs was observed in the following months. People postponed their appointments to visit the hospitals for mild ailments. Many hospitals closed their OPDs to reduce the transmission of covid, ensure safety of the senior doctors and shift the use of their resources more towards treatment of covid patients. [13] An increase in sales of online medicines also contributed to the decline in sales for retail pharmacies.

B. Supply Chain

The most evident obstacle that covid 19 brought with itself was disruption in the supply chain. Closing of national and international borders was only one of many challenges. Shortage in manpower, packaging materials and continuity in logistics operation created disruption in both supply and demand.

Indian pharmaceutical companies have been dependent on imports for raw materials. During the pandemic a slow international supply network resulted in unfulfilled demand by companies despite having the infrastructure to manufacture medicines.

When compared to international markets, India lacks innovation, standards and efficiency in ports, airports, railways, and roads. Poorly developed infrastructure leads to shortages in cargo vessels, containers, and storage for goods.

The international ocean shipping industry is extremely cost efficient because of its scale. But due to the pandemic there was a sudden change in supply and demand as well as introduction of new guidelines and restrictions. This resulted in inefficiency, reduction in profitability and increase in running costs. [16]

C. Slow Research and Development

To begin with, India's biggest challenge regarding R&D is the lack of qualified experts. The education system lacks focus towards practical and innovative thinking and lack of incentive towards research. Indian students are not attracted towards PhD programs as only 0.5% pursue PhD [18]. India spends 0.7% of its GDP on R&D which is very low when compared with other developing nations. [17] The approval process in India is also very tedious and inefficient which further deters companies and institution to focus on research.

In May 2020, 23 companies around the world were leading the research and development in finding a vaccine or cure for the virus. [23] Prioritizing the urgent need for a solution to manage covid brought a shift of research and development towards projects related to covid and approvals of non-COVID related drugs to receive approval delays and several month of application review postponements. [24]

Furthermore, the pandemic has led to slowing down of the economies of the world leading to slowing down of growth in the pharmaceutical sector which is sensitive to it. [25]

D. Increased Cost

Shortage of raw materials, increase freight costs, increase packaging cost, increase operational costs due to enhanced safety and social distancing norms are a few factors that fuels the increase in prices. [19] India is heavily dependent on imports from countries like China for raw materials, we are subject to price changes governed by factors out of our control. The prices of API and KSM imported from China have increased 20-30% during the pandemic. Cost of some API have increased by more than 50%. [15]. API price for paracetamol has escalated 25% from the period between April 2020 to December 2020. The total manufacturing costs have increased

by 15-20% in 2020. [26] This in turn results in increased prices for medications and lower profit margins for manufacturing companies.

The government is responsible to regulate the increase in price of medications according to the Wholesale price index was calculated to be 0.5%. However, pharma companies seek price increases of 20% because of the recent jump in manufacturing costs. Prices for many drugs will continue to increase in prices more than normal. India's pharmaceutical pricing regulator allowed price hike of 50% for drugs ibuprofen, ranitidine, and carbamazepine. [34]

IV. CONCLUSION

The covid pandemic has brought an opportunity for India to emerge as 'Pharmacy of the world'. India's pharmaceutical sector can grow even further with the current flow of investment and resources with active participation of the government to improve policy and regulations. India needs to reduce its dependence on imports for its raw materials and become more independent for manufacturing of drugs. An urgent shift towards research and development is required by increased R&D investments, improvement in academia and government subsidies.

The pandemic is ongoing and new data is still surfacing. The future holds uncertainty as new variants of the virus emerge causing an increase in cases and experts predicting the possibility of another wave of the pandemic in India.

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