Dissertation Presentation on Analysis Of Opportunities And Challenges In The Cardiovascular Medical Device Industry In India

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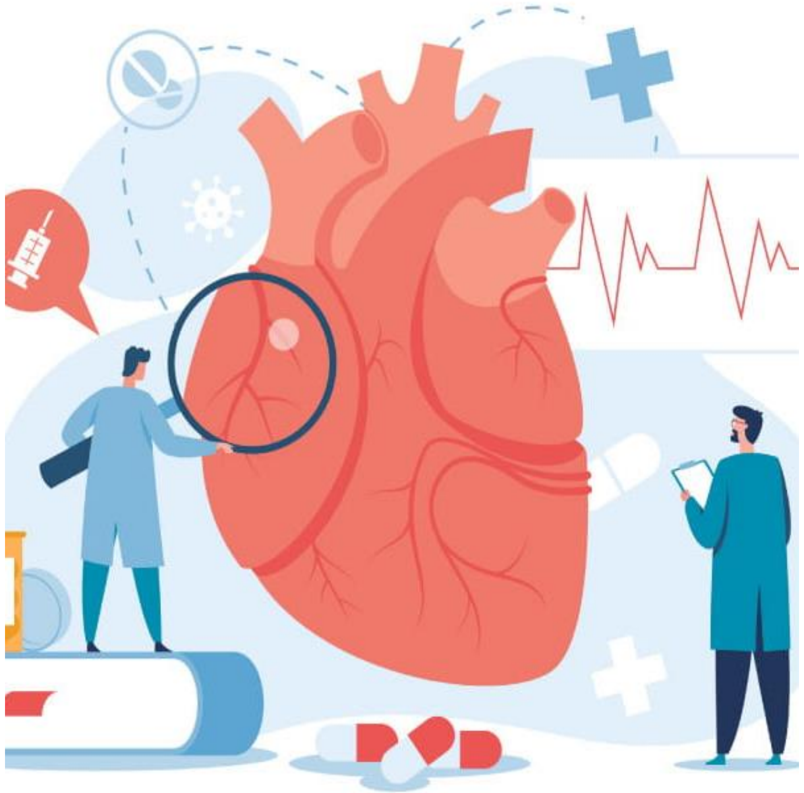


Background

- Cardiovascular diseases are a major factor in the high rates of mortality worldwide, with the most common conditions being ischemic heart disease and stroke.
- Cardiovascular diseases are the leading cause of death worldwide, causing significant loss of health in India as well as rising costs of the healthcare systems.
- When it comes to India, the medical device industry—which includes the cardiovascular medical device sector—is crucial and essential.
- The market's growth indicates that this category will develop and expand soon. The cardiovascular medical device industry in India has distinct possibilities and challenges.

AIM:

- The study aims to identify those opportunities and challenges to examine the future of the industry in India

OBJECTIVES:

- To find out the opportunities and challenges in the cardiovascular medical device industry in India
- To assess the growth and potential of India's market for cardiovascular medical devices.
- To examine current market developments in the cardiovascular device sector and to identify the major players along with products of this industry in India.

METHODOLOGY:

- This study is a descriptive exploratory study.
- It involves the study of various journals, research articles, published papers, government websites and data, news articles and other online sources to explore and assess about the parameters that can be identified as opportunities and challenges in the cardiovascular medical device industry.
- The secondary data that is obtained from thorough research will then be analyzed with each parameter to determine the impact of the growth of the cardiovascular medical device industry.

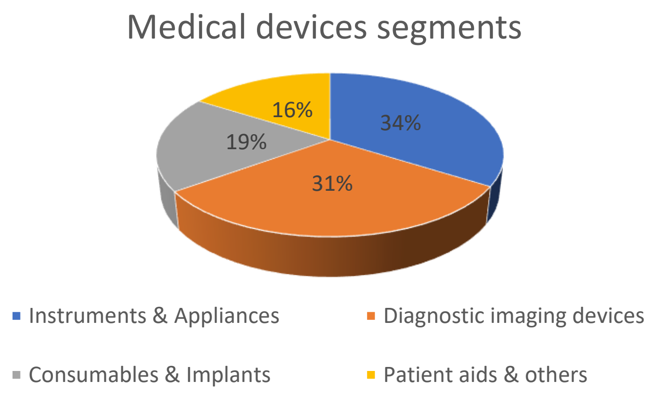
RESEARCH QUESTION:

- What are the opportunities and challenges faced by the Indian market for cardiovascular medical devices, and how are they affecting its future?

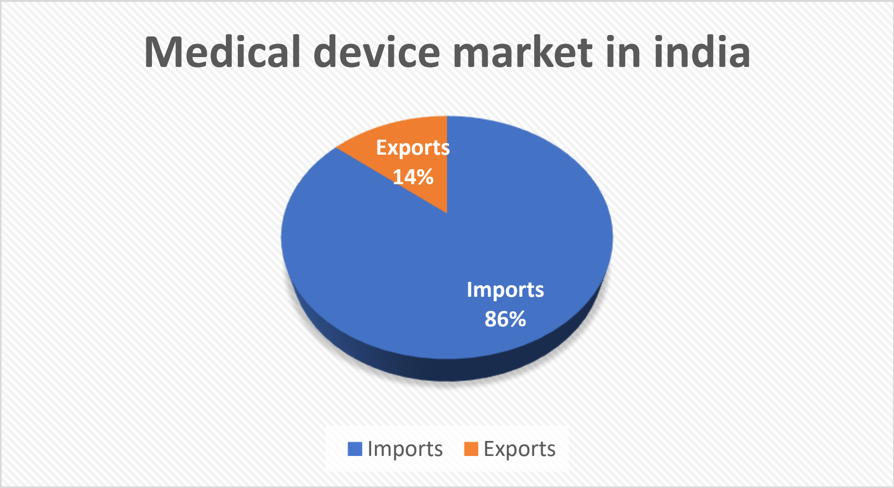
ANALYSIS AND FINDINGS

1. Current Market trends in the Indian medical device industry-

- Total market share – India's medical equipment industry is estimated to be worth $12 billion USD and to have a CAGR of 33% till the year 2025. it is expected to reach US $50 by the year 2025.
- After Japan, China, and South Korea, India has the fourth-largest market in Asia for medical devices.
- The device distribution has been segmented into various segments such as – Diagnostics, Instruments and appliances, diagnostic imaging devices, consumables and implants and patient aids. The largest market share is covered by appliances.



- Presently, according to estimates, India imports 86% of all the medical devices. India largely depends on imports whereas the export figures are less. India is largely dependent on gadgets such PCR technology, medical imaging instruments, ultrasound exams, and cancer diagnoses.
- The export sector is estimated to show a growth of 51% and reach US $10 by the year 2025. Some of the key exporters will be the US, Germany, China, Brazil and many more.
- Some of the major global companies in the medical device industry and the suppliers to India are **Boston Scientific, GE Healthcare, Johnson & Johnson, Medtronic, Philips, TransAsia, 3M, Siemens Healthineers, Stryker, Polymed, SMT, Baxter, Abbott.**
- The startup ecosystem is flourishing in India as over 250 organisations are working on new innovations for addressing important needs. Some of the startups are **Sattva MedTech, Consure medical, BeatO, Forus health, Indolabs.**



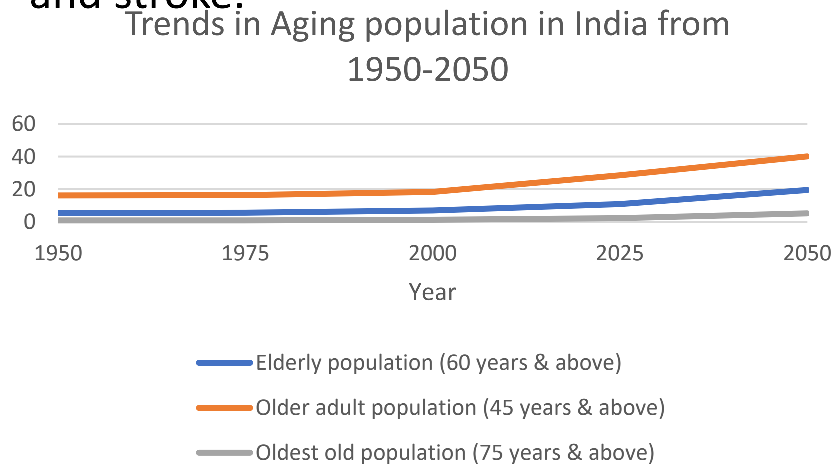
Cardiovascular Device Segment in India

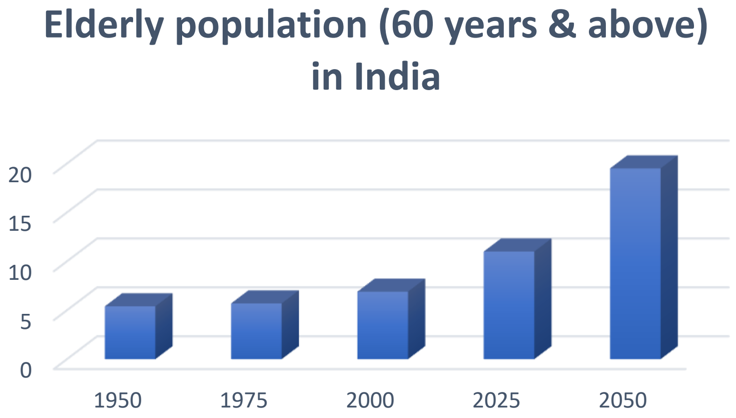
- The Indian cardiovascular The market for medical devices is anticipated to expand at a CAGR of 6.6% till 2028.
- CDSCO, the Central Drugs Standard Control Organization, observed that the maximum number of patent filing of medical devices was done in **cardiology** and the data suggests that the foreign manufacturers are bringing in their medical devices with cardiology devices on top.
- Some of the major devices used in cardiology are –
- Diagnostic & Monitoring equipment, such as an electrocardiogram and remote heart monitoring.
- Therapeutic and surgical tools - tools for controlling cardiac rhythm, Pacemakers, catheters, grafts, heart valves and stents.

Analysis of the parameters that can be identified as opportunities and challenges in the cardiovascular medical device industry in India –

1. Aging population in India

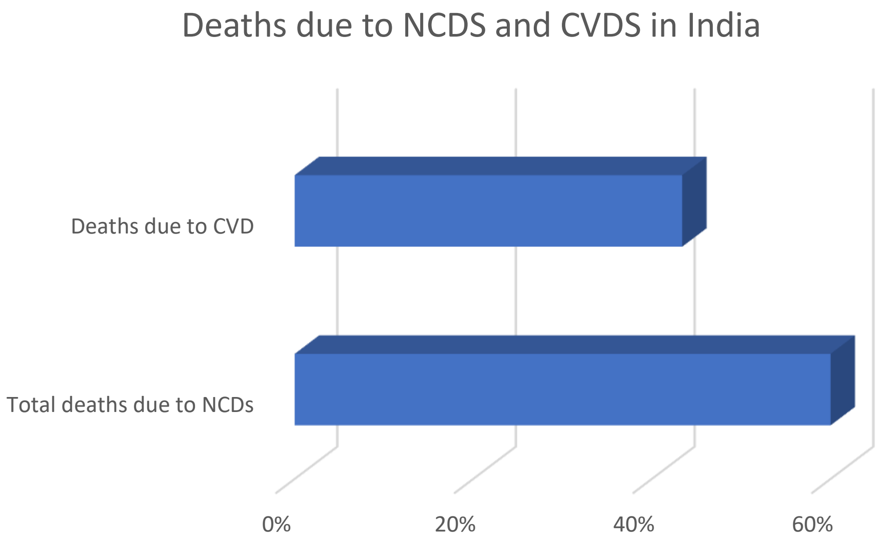
- In the world today, India has the second-largest senior population after China.
- The aging population of India will see a double increase by 19% till the year 2050.
- The most important factor to consider a person's cardiovascular health is by the age of the person.
- By 2030, approximately, 20% of the global population will be 65 years old and above and about 40% of them will be at a risk of developing cardiovascular diseases and death due to the same.
- The heart is significantly impacted by ageing, which increases the risk of cardiovascular disorders such hypertension, myocardial infarction, atherosclerosis, and stroke.

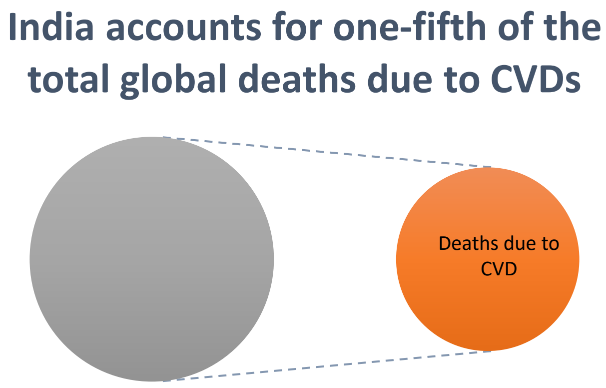




2. **Cardiovascular disease burden in India**

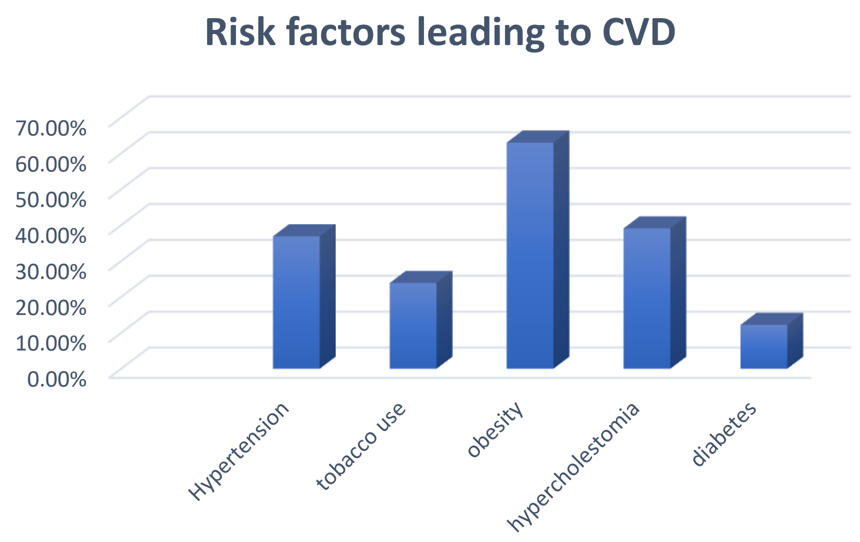
- India contributes to one-fifth of the total deaths due to cardiovascular diseases in the world.
- Out of the total deaths non-communicable diseases (NCDs) make about 60% of all illnesses in India. Among the 60% fatalities, 43% of deaths are due to cardiovascular diseases. These figures show that the cardiovascular disease burden is of great significance in India.
- There has been a significant spike in the number of deaths because of cardiovascular diseases from 1990 to 2020. The deaths due to cardiovascular diseases have been observed more in the urban settings than rural.





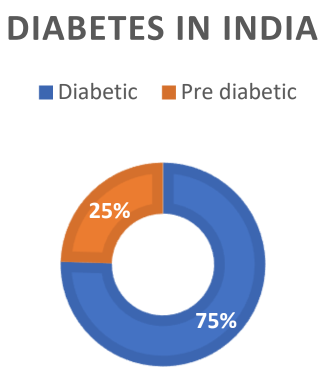
3. **Risk factors associated with cardiovascular diseases**

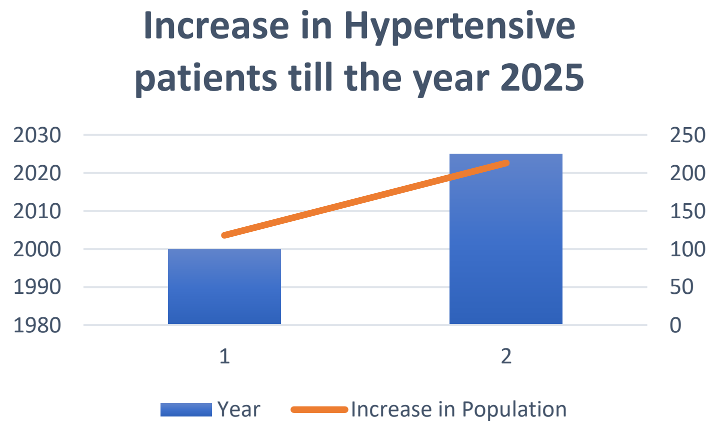
- Hypertension, Tobacco use, Obesity, Hypercholesterolemia and diabetes were identified as the major risk factors that lead to cardiovascular diseases in India. With Obesity being at the top as the largest risk factor.



- The population affected with diabetes in India is at 77 million while the prediabetics are at 25 million.
- India only has 10% of the population physically active regularly.

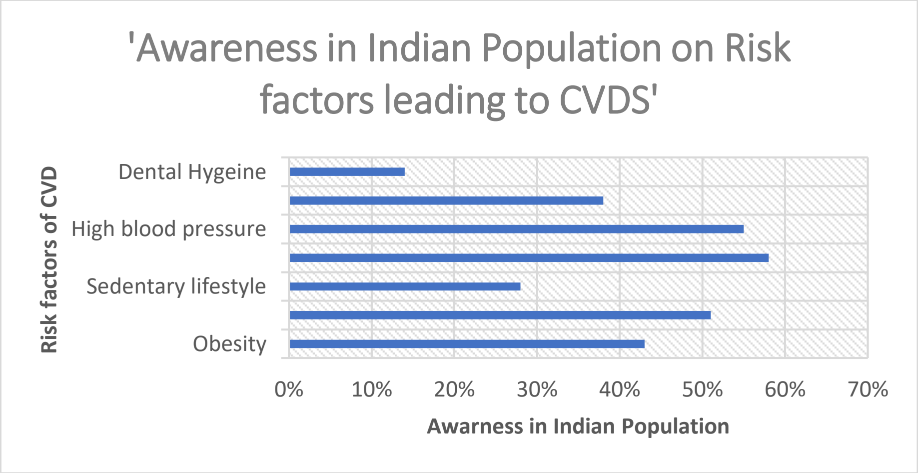
- Hypertension in India is increasing at an alarming rate with an increase in the hypertensive individuals at 213.5 million by the year 2025.
- With tobacco usage being at 23.6% in India, it surpasses the global usage which is at 22% which shows that tobacco usage is very prevalent in India.





4. **Awareness in the Indian population of cardiovascular diseases**

- Only 51% of Indians identified smoking as a risk factor to cardiovascular diseases.
- Only 58% and 55% of Indians identified stress and hypertension respectively as risk factors.
- 43% identified stress and 28% identified sedentary lifestyle as a risk factors.
- Only 38% Indians identified not exercising as a risk factor.
- Only one in four Indians is aware of stroke and its risk factors as said by the national survey. 77% of Indians were not aware of the risk factors associated with stroke. This shows the poor level of awareness amongst Indians.



5. **Government initiatives and policies**

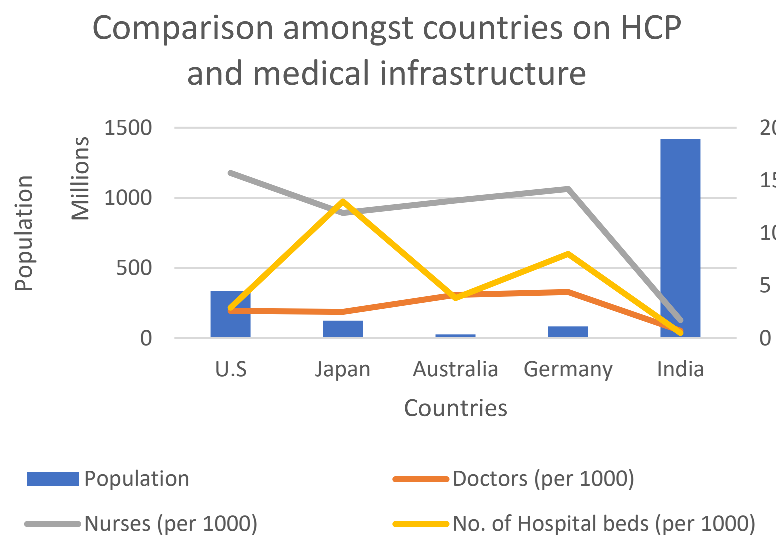
- Government of India launched the Production Linked Incentive Scheme (PLI) for promoting domestic manufacturing gives a financial boost to domestic manufacturing. Another initiative that is taken by the government is the promotion of the medical device's amusement parks.
- The National medical device policy, 2023 was approved in April 2023 and it is a scheme that is brought in to facilitate access, affordability, quality and innovation.
- Several other schemes and strategies such as regulatory streamlining, Facilitation of R&D and innovation in the MedTech sector, Attracting private partnerships and investments through the private firms have also been introduced by the government.

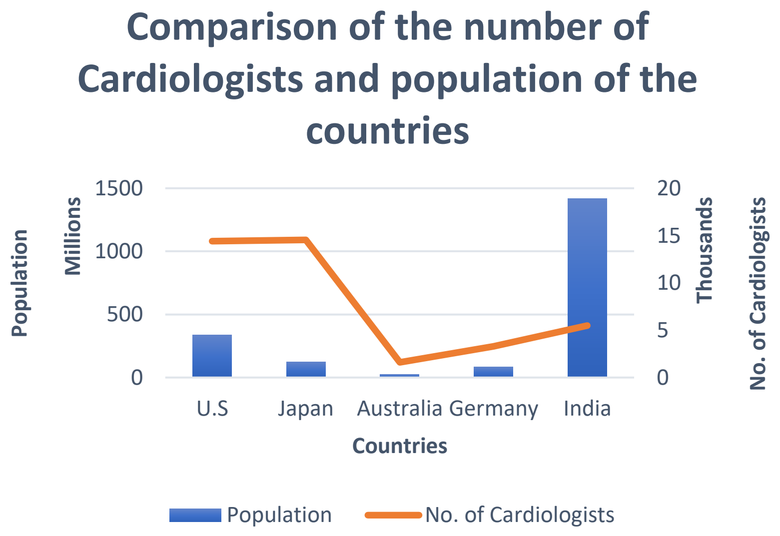
6. **Collaborations, partnerships and emerging technologies**

- A memorandum of understanding between IIT Guwahati and Ahmedabad's Sri Sathya Sai Heart Hospital will improve in the field of cardiac treatment.
- Max healthcare made a partnership with Mayo clinic for cardiac health care.
- Partnership with Tricog health services and Four state governments as well as healthcare organisations including Redciffe Labs, Max Healthcare, Apollo Hospitals, Fortis, Manipal Hospitals, and Apollo Hospitals. This initiative will help millions of people with remote cardiac solutions.
- Wipro GE healthcare has partnered with Boston Scientific to offer complete, cutting-edge solutions for interventional cardiac care.
- Partnership enabling the remote monitoring took place when AliveCor introduced a personal ECG machine, Kardiamobile 6L.
- Medtronic India in 2021 launched the Arctic front cardiac cryoablation catheter system which was approved by the CDCSO for the treatment of atrial defibrillation in India.
- Siemens healthineers launched corindus Corpath GRX robotic system for coronary and peripheral vascular interventions in India.

7. **Healthcare providers and medical infrastructure**

- A comparison was made between India and other countries such as U.S, Japan, Australia and Germany.
- The results showed that in comparison to the population that India has, the number of Hospital beds were significantly less which was found at0.5% per 1,000 people.
- The quantity of physicians and nurses who represent the healthcare providers was also significantly less than other countries which were found at 0.7 per 1000 and 1.7 per 1000 population.
- The number of cardiologists were more in number compared to the other countries yet for a population like India, they were less.
- In total India has 5,500 cardiologists.

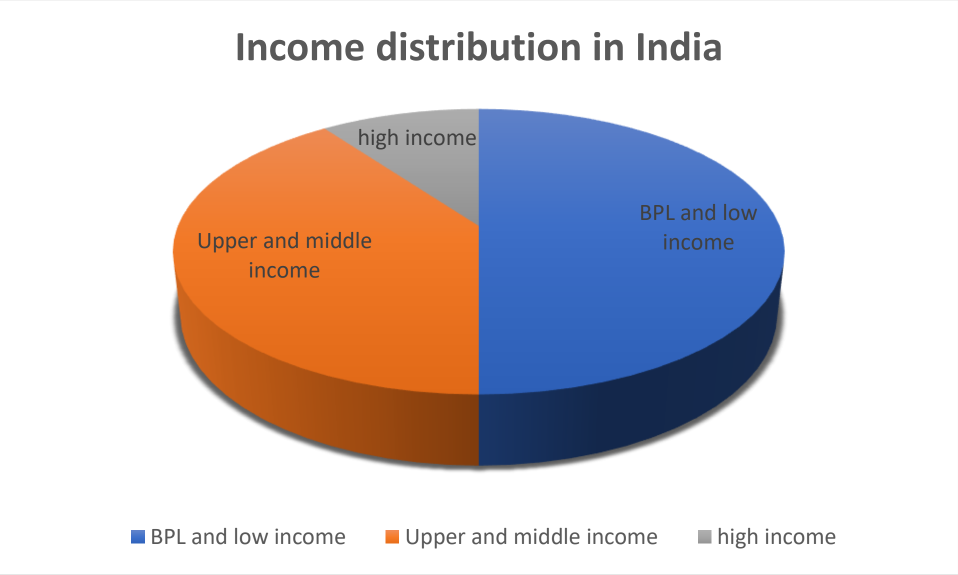




8. **Affordability**

- The population is divided into the income groups such as the high-income groups that have an income of >30 lakhs, upper- and middle-income groups that have an income of 5 to 30 lakhs and 1.25 to 5 lakh respectively. The lower income group has an income of 1.25 lakh per annum and the below the poverty line earns only Rs 27,000.
- The BPL and lower income groups constitute 50% of the total earning groups whereas the upper and middle groups make up 40% and the high-income groups are only 10% in India.
- Cardiovascular devices such as pacemakers, stents, defibrillators, catheters that are commonly used for treating cardiovascular conditions are at the prices mentioned below.

Cardiovascular Device	Costs (in Rs)
Balloon Valvopathy Catheters	15,000-30,000
Catheters used in Ablation Procedures	15,000-75,000
Pacemakers	60,000-1,00,000
Defibrillators	2,00,000-5,00,000
Bi ventricular Pacemakers	2,50,000-7,00,000



RESULT & DISCUSSION

- India's medical device market has a lot of promise. India now has a $12 billion market share for medical devices, and by 2025, that market share is anticipated to increase to $50 billion. with the CAGR of 33%
- Currently India imports 86% of the total devices and the local players are not many. The export sector is expected to show growth in the coming years of 51% and the key exporters will be countries like U.S, Germany, China, Brazil.
- The Indian cardiovascular medical device CAGR for the market is predicted to be 6.6%.
- Some of the opportunities that this study aimed to identify were the aging population of India, the cardiovascular disease burden, increase in risk factors leading to CVD, the new government support policies and initiatives, collaborations, partnerships and emerging technologies in the industry.

- Few of the challenges identified in the cardiovascular medical device industry were low awareness level of the Indian population regarding the cardiovascular diseases and their risk factors, shortage of health care providers such as the doctors, nurses and cardiologists in India, he medical infrastructure not being fully adequate such as the number of beds in the hospitals and affordability issues

- **OPPURTUNITIES**:

1. The aging population of India is showing an upward trend. It is estimated that the aging population of India will see a rise of 19%. the proportion of seniors (those 60 years and older) will reach 319 million by the year 2050. Aging has a significant impact on the heart vascular function that leads to hypertension, myocardial infarction and stroke.

2. Cardiovascular diseases burden in India is said to be the highest and the leading cause of deaths. The cardiovascular diseases account for more than 17.7 million deaths annually and India contributes to one fifth of the total deaths in the world due to cardiovascular diseases.

With the yearly frequency of CVDs rising in India, the burden has kept on increasing. With such an increasing burden of the cardiovascular diseases in India, it acts as an opportunity for the cardiovascular medical device industry for future growth.

- 3. The rise of the risk factors associated with cardiovascular disease shows an upward trend in India. Risk factors such as hypertension, tobacco usage, sedentary lifestyle, obesity, diabetes and hypercholesterolemia are leading to cardiovascular diseases. An increase in all the risk factors will act as an opportunity for the market.
- 4. Government is taking a lot of initiatives in the sector of medical devices. Few policies have also been introduced. The Production Liked Scheme (PLI), Amusement parks for the medical devices are also being introduced in states such as Madhya Pradesh, Tamil Nadu, Himachal Pradesh, and Uttar Pradesh.
- 5. Various collaborations and partnerships in the cardiovascular medical device industry are seen as the private front is more dominant in this industry. Collaborations between big chain hospitals and foreign companies are taking place to make cardiac care better in India in terms of research and treatment outcomes.

- **CHALLENEGES:**

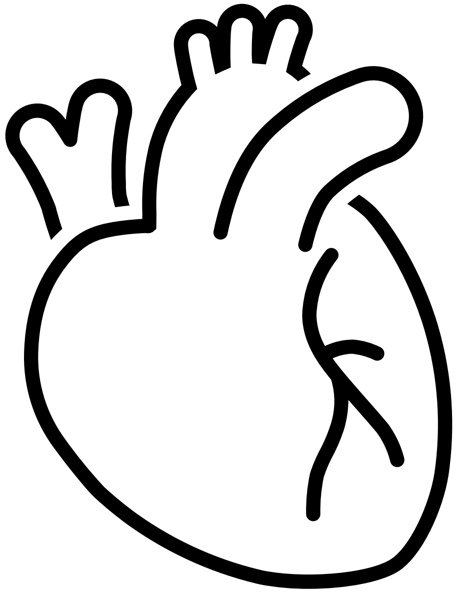
1. The awareness of the Indian population related to cardiovascular diseases was less. Very few Indians knew about the risk factors that lead to cardiovascular diseases. Risk factors including smoking, hypertension, and obesity have also been discovered were known to few individuals. Only one in four Indians is aware of stroke and its risk factors as said by the national survey. 77% of Indians were not aware of the risk factors associated with stroke. This shows the poor level of awareness amongst Indians

2. One of the biggest challenges in India is faced on the health care providers and medical infrastructure front. When compared to other countries, India stands far below when it comes to the manpower of the medical industry. The shortage leads to less expertise and manpower inadequacy.

3. India is a county with varying income groups. It is divided in groups such as the below the poverty, low income, upper and lower middle income and high-income groups. The below the poverty and low-income groups form most of the distribution in the population. The income being so low of these groups shows that the average costing of a medical device e.g., a pacemaker at Rs 60,000 to 1 lakh cannot be affordable to most of the population.

CONCLUSION:

- The medical device business is expanding quickly, and during the past few years, it has exhibited expansion in India.
- According to predictions, the medical device industry will develop more rapidly in the next years due to technological improvements.
- The medical device business, which includes the cardiovascular medical device sector, is an important and integral part when it comes to India. The market growth shows an increase and expansion of this segment in the coming future.
- India's market for cardiovascular medical devices offers unique potential and difficulties as discussed in the above sections.
- With all the opportunities and challenges identified in this study, it can be said that the opportunities will pave the road for the cardiovascular industry in India in the coming few years, but the challenges also need to be addressed to gain the maximum and full potential of this industry in the future.



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