



CHAPTER-20

A STUDY ON MARKET ANALYSIS OF ATRIAL FIBRILLATION DEVICES

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INTRODUCTION

Atrial fibrillation, also known as AFib or AF, represents a type of arrhythmia characterized by the irregular or quivering rhythm of the upper two chambers of the heart, involving erratic changes in the normal sequence of electrical impulses. AFib poses significant risks, including the formation of blood clots, heart failure, stroke, and other heart-related problems. If left untreated, it can double the risk of stroke. While the precise cause of atrial fibrillation is not clearly defined, it is often associated with factors such as hypertension, obesity, sleep apnea, and underlying heart diseases [2,3].

In a healthy heart, the electrical impulse originates in the sinoatrial (SA node) of the atrium and travels through the AV node, bundle of His, bundle branches, and Purkinje fibers, causing the ventricles to contract. In atrial fibrillation, numerous different impulses fire rapidly at once, resulting in a very fast and chaotic heart rhythm. This disrupts the normal contraction of the atria, limiting their ability to effectively pump blood into the ventricles. Atrial fibrillation is classified into three types: paroxysmal, persistent, and long-term permanent [1].

Atrial fibrillation is a significant global healthcare concern, with evidence indicating an increase in both prevalence and incidence. Approximately 1 in 1000 individuals experience atrial fibrillation for various reasons. According to a 2013 study by the Center for Disease Control and Prevention, the estimated worldwide number of individuals with AFib in 2010 was 33.4 million. Additionally, it is projected that 2% of people under the age of 65 and 9% of people over the age of 65 in the U.S. suffer from atrial fibrillation. This number is expected to double by the year 2030. While the global prevalence of AFib is relatively lower than some other diseases, regional variations exist due to specific factors [4].

RESEARCH QUESTIONS

1. What was the worldwide market dimension for devices treating atrial fibrillation?

2. Who were the primary contributors in the arrhythmia segments utilized for treating atrial fibrillation on a global scale (including North America, Latin America, Europe, Asia Pacific, Oceania, the Middle East, and Africa)?

RESEARCH OBJECTIVES

1. To assess and project the global market for atrial fibrillation devices.
2. To identify the factors influencing, limiting, providing opportunities, and shaping trends in the market for atrial fibrillation devices.
3. To comprehend the competitive scenario in the atrial fibrillation devices market through an analysis of company shares.

RESEARCH METHODOLOGY

The research design employed for this study was a descriptive market research approach, and the type of data utilized was a combination of both primary and secondary data. The primary data collection tools included questionnaires and telephonic interviews, while MS Excel was employed as the data analysis tool. The inclusion criteria involved an analysis of the market for atrial fibrillation devices and the technologies used in treating atrial fibrillation, encompassing electrophysiology, RF ablation, cryoablation, laser-based ablation, maze surgical devices, and LAA management devices. The revenue generated by manufacturers from atrial fibrillation devices was considered, including both global and local players. In estimating the market size, the combination use of multiple catheters, such as RA/RV catheter (either fixed or steerable), was considered at 2 per patient. Exclusion criteria involved not considering patients with rheumatic heart disease (RHD) in the study, and the electrophysiologist service cost for EP studies, RFA, cryoablation, and other procedures was not taken into account. Additionally, consultation fees charged by cardiologists for the diagnosis and treatment of atrial fibrillation were not considered in deriving the market revenue.

RESULTS & DISCUSSION

In the past, there were numerous competitors in the market, and some were still in the process of gathering safety and efficacy data to introduce their products. Biosense Webster and Abbott Laboratories emerged as leaders in the global market for atrial fibrillation devices and electrophysiology. Companies focused on marketing products from Indian and Chinese manufacturers to boost sales on a global scale. Strengthening and improving sales and distribution were key components of the network marketing strategy, with tie-ups with distributors and other channel partners ensuring continuous product availability and expanding product reach both geographically and in traditional end-use settings. Manufacturers adopted key strategies such as acquisitions, capacity expansion, product launches, and the adoption of technological platforms to increase sales in different geographies. Forward integration was a priority to partner with wholesalers, distributors, and other channel partners to gain ownership over the value chain. Additionally, governments and regulatory bodies in various countries shifted towards a value-based healthcare model to reduce the healthcare burden, particularly in developed countries.

The growth of the atrial fibrillation device market was influenced by factors such as the increasing prevalence of atrial fibrillation, ongoing technological advancements, a favorable scenario for medical device reimbursements, rising demand for minimally invasive surgeries, and increased healthcare expenditure across emerging markets. However, manufacturers faced challenges due to a stringent regulatory scenario, limited patient awareness leading to delayed treatment for atrial fibrillation, and a shortage of skilled and well-trained electrophysiologists to perform EP studies on a global scale.

CONCLUSION

The global market for atrial fibrillation devices reached a valuation of US\$ 3.5 billion in 2019 and is anticipated to attain US\$ 14.9 billion by the close of 2030, reflecting a compound annual growth rate (CAGR) of 14.2% over the forecast period. The growth of the atrial fibrillation market is influenced by various economic and industrial

factors. Atrial fibrillation devices are subject to regulation by different regional regulatory bodies, with guidance from the US FDA. The United States stands out as the most lucrative region for atrial fibrillation devices, with Europe and other regions also expected to experience a notable increase in the adoption of minimally invasive treatments for atrial fibrillation. In Asia Pacific, countries such as India and China are projected to hold significant market shares due to the rising prevalence of atrial fibrillation, growing awareness among the population, and increased government healthcare expenditures.

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