

Intoxicating Prophecy of Cardiovascular Disease in India by Means of Data Mining

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Abstract - A cardiovascular disease is a core spring of fatal outcome in the current general public. Cardiovascular diseases contain a foremost split in the occurrence of non-communicable diseases. CVD is also escorts the top roots of deaths in India. It has teeming with the precincts of gender, location of abode etc. Medicinal classification is exceedingly significant but problematical task that should be performed precisely and proficiently. Although sizeable infringement has ended diagnosis and treatment of CVD, supplementary exploration is still needed. The fetchability of massive expanses of medical data leads to the need for powerful online obituary articles via a series of tailored cyber-informatics tools are built-up towards mine useful information. Nowadays, it becomes prime brave for physical condition concern organization, face is the explosive growth of data, and so Data mining and analytical tools that aid to dig up consequential gen from huge statistics put. "This deed attend to the applications of online content mining that can be a cost-effective and reliable way for extracting valuable hearsay as of the enormous facts sets and given that systematic tool to analysis and employ this information for decision making processes by taking real life examples". Projections for future also estimate a similar trend for further propose the Intelligent Heart Disease Prediction System (IHDPS) associated with CVD and accurate decision can be taken for the removal of a particular disease and prophecy with the entire world.

(Keywords - Cardiovascular disease, India, online content mining, real life examples and prophecy)

I. INTRODUCTION

Studies show an increased prevalence of cardiovascular disease in India as compared to other developing countries with latest drift screening commonness in younger age faction. It is seen to affect more or less all sector of the society from young to mature and most well-off to least well-off. It has a noteworthy charisma in males and females in both metropolitan and rustic inhabitants. The prevalence of its allied peril cause has been initiated to be real ever more in the population. With such a fast pace of escalating occurrence, a number of epidemiological swot up have been carried out in India to trace the prevalence of CVD over time. Assorted approaches have forecasted for upcoming

commonness and pervasiveness of CVD in India. To formulate this review article, original articles in various national and international journals were searched through web. Only those studies which were conducted post 2000 were included. Key words such as "prevalence", "coronary heart disease", "cardiovascular disease", "heart disease", "in India", "risk factors" etc. were used to find articles. This commentary tries to symbolize the data composed so far by roughly 15-20 studies gratifying the orientation norms. This editorial arises as an endeavour to widen a synopsis of the prevalence of CVD over the last decade as observed and quantified by different studies conducted on Indian population.

In modern world a huge amount of data is available which can be used effectively to produce vital information. The information pull off can be worn in the pasture of medicinal, farming, trade and so on. As vast quantity of data mortal collected and hoard in the databases with the aid of Data mining.

Data mining has become the area of growing significance because it helps in analyzing data from different perspectives and summarizing it into useful information. There are increasing research interests in using Data mining based on web articles. This new emerging field, called Intoxicating prophecy of Cardiovascular Disease in India by means of Data Mining, concerns with developing methods that discover knowledge from data come from health check atmosphere. The data can be collected from various medical institutes, doctor's clinic or hospital that resides in their databases. The data can be personal or institutional which can be used to understand patients' behaviour, to assist doctor, to improve diagnosis, to evaluate and improve health care systems, to improve error free or zero error treatment and many other benefits investigations by leveraging people's data publicly available on the Internet. The purpose of our study is to explore whether personal information collected through crawling openly available online content can enable a new way of Internet-based epidemiological knowledge discovery at a significantly reduced cost and time.

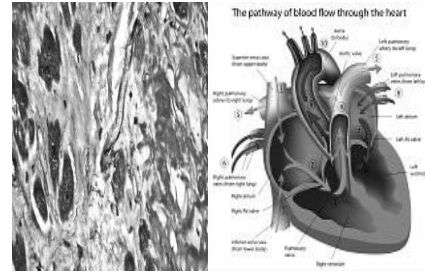
As study focused on well known association flanked by CVD in India. Cardiovascular disease is caused by the disorders of the heart and blood vessels, which leads to a disease called as Coronary Heart Disease (heart attacks), cerebrovascular disease (stroke), raised blood pressure which leads to hypertension, peripheral artery disease, rheumatic heart disease, congenital heart disease and heart failure. The major causes of cardiovascular diseases are use of tobacco, physical inactivity, unhealthy diet and intake of alcohol. These are the three main causes which lead to heart diseases (1) chest pain (2) stroke and (3) heart attack. To avoid and identification of these diseases different techniques of data mining is used through this easily find out heart related diseases specially Heart Attack using real patient data and this is the aim of the paper. Heart disease is the leading cause of death all over the world in the past ten years. Numerous researchers are using statistical and data mining tools to help health care professionals in the diagnosis of CVD.

CVD by means of data mining used many techniques such as Data collection or information retrieval.

II. LITERATURE SURVEY

Contemporary outcrop implies that India will have the largest cardiovascular disease yoke in the world. One fifth of the demise in India is from coronary heart disease. By the year 2020, it reports one third of every bit of bereavement due to CVD. [2] Sadly, many of these Indians will be dying young. Heart disease in India occurs 10 to 15 years earlier than in the west. There are an estimated 47 million patients of coronary artery disease in India. [1] An increasing number of young Indians are falling prey to coronary artery disease. With millions obsessed to a roller-coaster lifestyle, the future looks even grimmer. There are at least 50.9 million diabetics in India, which is the highest ever reported number from anywhere in the world according to International Diabetes coalition. The prevalence of diabetes varies between 6-9% in metropolitan and 2-5% in rustic adults. Indians tend to be diabetic at a relatively young age of 45 years which is about 5 years earlier than in West. The prevalence of diabetes varies between 6-8% in urban and 2-5% in rural adults. There emerge to be a steady increase in hypertension prevalence over the last 60 years, more in urban than in rural areas.

Hypertension is 25-30% in metropolitan and 15-20% in rustic subjects. Sedentary lifestyle is a major cause of death, disease and disability. Substantial immobility increases all causes of mortality, doubles the risk of cardiovascular disease, type II diabetes and obesity. It also increases the risk of colon and breast cancer, high blood pressure, lipid disorders and anxiety.



III. RISK FACTORS

The fitness heed wishes of the world's populace are liable to endure thespian transforms due to the fragmentary demographic conversion. [4] Incurable diseases (ICDs), such as diabetes, cancer, depression and heart disease, are swiftly replacing infectious diseases and malnutrition as the leading causes of disability and premature death. People might suffer due to these following acts and this leads to finally CVD (ICD)

- Soaring Blood Pressure
- Elevated Cholesterol
- Diabetes
- Melancholy
- Flabbiness (Obesity)

A. Prevention

The superior word of mouth is that overprotective for these hazard issues might diminish risk of heart attack or stroke by more than 85 percent. Here are some simple guidelines to be followed.

- Slowly Have Power Over The Ascendancy Of Drink Habits
- Should Trail The Proper Diets
- Work Outs (Exercise)
- Frontier constant worry
- Relinquish Smoulder (Smoke)
- Control Your Blood Pressure, Cholesterol, Diabetes, And Weight.

B. Medical Costs and Care

- The number of folks who hospitalized for heart disease in every year is about 3.7 million. On average, these people stay in the hospital for 4.6 days. And in massive 13.5 million folks craft on CVD-related summits to their physicians every year.
- Those entire specialists hang about and infirmity dwell adds up—not to reveal outlay of treatment. The total estimated economic cost of CVD is about \$313 billion. That's \$192 billion in direct health expenditures, and \$121 billion in indirect costs (mortality).

IV. DATA COLLECTION

Here the data are collected from the various sources, like web stuffs (online materials related to CVD) or seeking information from the specialist or directly interviewing the patient to gather their real life experience as a report

Reports

Case 1:

Carol says "I started having indigestion late one afternoon while meeting with clients. As I sat listening to the auctioneer present my clients with various alternatives to selling their home, the pain intensified. I told my client, who happened to be a doctor, about my symptom, and he explained that it may be a gall bladder issue since I had no other symptoms of a heart attack. He advised me to go straight to the ER – just in case.

I drove myself to the ER where my EKG was good, but my blood work indicated heart muscle damage. I know now that I lost valuable time in driving myself to the hospital - I might have been spared some muscle damage had I been treated by medics who could administer appropriate care en route and ensured that I received immediate medical attention once I arrived at the hospital. Any woman in need of emergency medical care should call 9-1-1! Not only can EMTs provide timely and necessary care, but they also ensure that you will be taken to a hospital that can handle your needs as a cardiac patient. I was not overweight, exercised up to six times per week, and my cholesterol levels were as low as any he had seen. He said it was the most bizarre case he had.

Case 2:

Nick says Hey i was 27 and had open heart surgery because of infective endocarditic, but none the less open heart surgery. I know exactly what you are talking about with feeling useless, but my big motivator for me was everyone saying i couldn't do work like i used to or this or that, and I proved them wrong i bounced back and i am better for it. Sure i got a scar on my chest now which for awhile really bugged me but now it's just there and it's whatever. My biggest advice is to prove others, but most of all yourself that you are better than this thing and you are a survivor! Keep on pressing on and getting better.

V. RESULT

[3] In total, subjects were studied in rural and urban area respectively forecasting the number of cases (males and females) and total years are displayed. Table I & II shows and fig.1 shows the survey of (CVD) patient admitted in 2012. Fig.2 shows the region level of men women who pretentious by CVD from 2000-2012.

TABLE I: Estimates of Forecasting the number of cases (males and females) of CVD (in India)

Year/area	20-29yrs	30-39yrs	40-49yrs	50-59yrs	60-69yrs	Total
2000						
Urban	2,711,501	2,635,019	2,776,974	2,288,412	1,888,199	12,300,104
Rural	1,799,691	2,854,247	3,342,472	3,590,855	3,153,512	14,704,808
Total	4,511,192	5,489,266	6,119,446	5,879,296	5,041,711	27,040,912
2005						
Urban	4,138,045	3,869,904	4,116,830	3,171,320	2,582,790	17,878,889
Rural	2,012,363	3,383,816	4,217,201	4,544,974	3,849,544	18,007,899
Total	6,150,408	7,253,720	8,334,032	7,716,294	6,432,334	35,886,789
2010						
Urban	5,992,412	5,154,766	5,606,731	4,233,273	3,710,938	24,688,119

Rural	2,324,772	3,940,722	5,367,797	5,817,363	4,829,922	22,280,577
Total	8,317,184	9,095,489	10,974,527	10,040,636	8,540,860	46,968,695
2015						
Urban	8,167,924	7,927,846	8,493,463	6,156,089	5,346,975	36,092,297
Rural	2,324,087	4,523,697	5,816,588	6,852,050	5,913,624	25,430,046
Total	10,492,011	12,451,542	14,310,051	13,008,140	11,260,599	61,522,343

TABLE II: Estimates of total years of life lost due to CVD in 2000 and 2030

Country	2000		2030	
	Total years of life lost	Rate per 100,000	Total years of life lost	Rate per 100,000
India	9,221,165	3,572	17,937,070	3,070

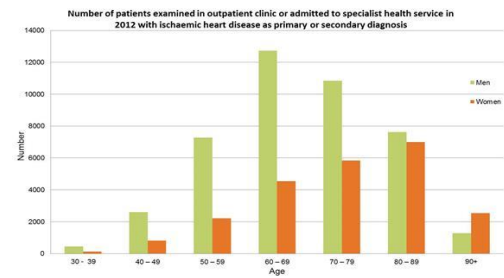


Fig.1 survey in 2012

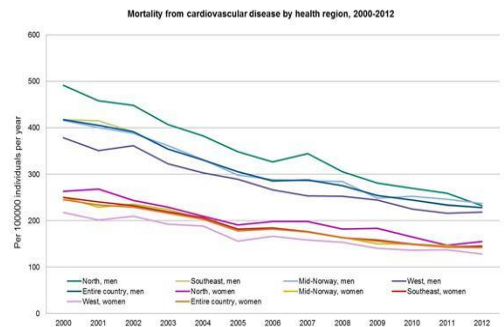


Fig. 2 Region level in 2000-2012

VI. CONCLUSION

This paper reports a cost-effective, case-control study on CVD by mining a large number of patient records from the Internet. Although there may be some scepticism about the general approach, mainly due to the integrity of data source and possible text parsing error paper demonstrated that Data mining's data is adaptable to large scale epidemiological-type studies. The main strength of the general approach is its efficiency and ability to monitor trends in a dynamic way by continuously parsing and analyzing new online content. There were able to collect massive amounts of data with a very short amount of time, compared to other traditional case-control studies which require dedication of substantial human effort from multiple hospitals and organizations. The large sample size led us to provide meaningful results with statistical power, while reducing the possible risk of noise of the data. Although obituaries proved to be a good source of data about family history, we make out towards our modern loom does not

gain further details regarding a subject's key life events such as the age of her first attack experience. This is a serious limitation for haulage away additional in-depth scrutiny. In our prospect rework, we mapped to survey former sort of online serene records about a one's existence tale for supplementary scrupulously and strongly performing Data mining based epidemiological explorations.

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