Introduction

India is composed of 29 states and seven union territories. India has a population of 1,210,854,977 with a population density of 382 km\(^2\). Total area is 3,287,263 km\(^2\). The rural population is 833,463,448. Urban population is 377,106,125. Sex ratio (Females per 1000 males) is 943. Number of Literates (over 7 years of age) is 763,498,517.

Magnitude of the problem

Premature cardiovascular disease

- Premature mortality in terms of years of life lost due to CVD in India increased by 59\% from 23.2 million (1990) to 37 million (2010).\(^2\)
- In the western world population, only 23\% of CVD deaths occur before the age of 70 years, while it is 52\% in India.\(^3\)
- In terms of the number of years of life lost (YLLs) due to premature death in India in the year 2013, ischemic heart disease was the highest ranking cause, followed by lower respiratory infection, and tuberculosis.\(^4\)
- Age-standardized YLL for all ages is 4,116.0 per 100,000 for ischemic heart disease and 1,792.1 per 100,000 for cerebrovascular disease.\(^4\)

4. Institute for Health Metrics and Evaluation [Internet]. Available from: http://www.healthdata.org/india
WHF Roadmap to reducing premature cardiovascular disease (CVD) mortality in India - secondary prevention and hypertension summary situation analysis

The Care Gap

For secondary prevention

According to the PURE study in India, only 19% of people with a history of cardiovascular disease use at least one medicine for secondary cardiovascular prevention and less than 1% use the four recommended one.16

For hypertension (Proportion of patients with HTN awareness, treatment and control)

Overall estimates for the prevalence of awareness, treatment, and control of BP were 25.3% (21.4–23.3), 25.1% (21.0–23.3), and 17.2% (15.5–19.0) for rural Indians; and 42.0% (35.2–48.8), 37.6% (34.0–41.2), and 20.2% (11.6–28.7) for urban Indians.17 Over half of those with hypertension in India are not aware that they have elevated BP. Of those who are aware that they have hypertension, only about 60 to 80 per cent are treated with medications, and of those who are treated, the majority do not have adequate control of BP and fewer have other risk factors addressed.

Overall mortality
CVD
- Nearly two thirds of the burden of NCD mortality in India is currently contributed by CVD related conditions.6
- Mortality due to CVD was 272 per 100,000 population in 2010, which was higher than the global average of 235 per 100,000 population.1 It was 321 per 100,000 males, and 225 per 100,000 females.4
- Three large prospective studies from India suggest a higher proportion of mortality attributable to CVD (30-42%) and age standardized CVD mortality rate (555 to 525 per 100,000 population in men and 225-299 per 100,000 population in women) as compared to the Global Burden of Disease study (2010).7,8

Hypertension
- Leads annually to 1.1 million deaths in India (uncertainty index 0.9-1.3 million).10 It is estimated to account for 10.8 per cent of all deaths in India.16

Morbidity
CVD - regarding disability of CVD, DALYs was 5257 per 100,000 population total for both sexes, all ages, 6251 per 100,000 males and 4193 per 100,000 females (Global Burden of Disease for both sexes, all ages, 2013).9 According to 2010 estimates, DALYs was 5438 per 100,000 population, 6648 per 100,000 males, 4241 per 100,000 females (Global Burden of Disease 2010 estimates).2

Prevalence of hypertension
- 30%; in adult Indians (34% in urban & 28% in rural areas).15
- The number of individuals with hypertension is expected to double from 118 million in 2000 to 213.5 million by 2025.26

Prevalence of Ischemic Heart Disease (IHD)
- The prevalence of IHD in 1980 in urban India was 2%, and increased 7 fold to about 14% by 2013.4 Similarly, in rural areas it more than quadrupled from 1.7% to 7.4% between 1970 and 2013.4
- Indian National Commission on Macroeconomics and Health 2005 report estimated that there were 38 million CVD patients in the year 2005 that were projected to increase to 64.1 million in 2015.25

Economic burden
- The World Health Organization (WHO) estimated that India would lose 237 billion dollars from loss of productivity and spending on healthcare over a ten year period (2005-2015) with the current burden of CVD.27

Potential roadblocks

1. Patients do not have access to the healthcare system
   - With an Average of 20,000 to 30,000 people per Primary Health Centre (PHC), India’s 25,308 PHCs meet half of their population requirement.\(^\text{18}\)
   - As of March 2015, the shortfall in the post of HW(F)/ANM at PHCs was 5.21% of the total requirement.\(^\text{19}\)
   - As of March 2015, 11.2% of sub-centres in India were without all-weather motorable approach roads, and 25% of sub-centers functioned without an electricity supply.\(^\text{19}\)

Qualitative study findings

One (reasons for not going to the government hospitals) is the crowd, such a waste of time, then I get tensed... when I finally meet the doctor, he does not have time. I have to quickly tell him about my problems and he writes medicines. He has no time to even listen to us completely. He will ask one question which I answer and then ask me to leave and take this medicines. Sometimes, I go there with a question and come back with no answer.

(Male, 59 years old, hypertensive)

2. Lack of HCPs to prescribe priority interventions
   - It has been estimated that countries with fewer than 23 physicians, nurses and midwives per 10,000 population generally fail to achieve adequate coverage rates for selected primary health-care interventions, as prioritized by the MDGs.\(^\text{20}\)
   - The density of medically qualified doctors is 3.4 per 10,000 population.\(^\text{20}\)
   - According to “The Health Workforce in India” published in June 2016 by the WHO, the density of nurses and midwives is 6.13 per 10,000 population.\(^\text{22}\)
   - Of a total population of 1,028,610,328 in 2001, there are 2,069,540 health workers.\(^\text{22}\)

Qualitative study findings

Human resources... ah... if we are given little more hands, it will be well for us to establish it (programmes for CVDs and other NCDs). We are running short. Because demand of population is high. So, the human resource is a little bit insufficient. If we are given, it will be better to function.”

(Top district level public health official)

3. Priority interventions are not affordable
   - 88%, 62%, 26% among households with lowest wealth, middle wealth and highest wealth might not be able to afford all four cardiovascular disease medicines. A total of 59% households in India would find medicines unaffordable.\(^\text{23}\)
   - 70% of health care expenditures consist of out-of-pocket spending with only 17% of the population of India being health insured.\(^\text{24}\)

Qualitative study findings

Well the major problem with health in India is that it is very expensive. 80-90% of the expenses have to be borne by the individual OOP their pocket. Very few people have health insurance and the ones that are there they have some many conditions, don’t cover a lot of diseases, ages and there are a lot of nitty-gritty associated when they have to get the money back after the care.”

(NCD researcher at a well-known public health research organization)

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\(^{19}\) Available at http://wcd.nic.in/sites/default/files/RHS_1.pdf


\(^{22}\) Available at http://www.who.int/hrh/resources/16058health_workforce_India.pdf?ua=1

Notes