

Editorial:

Public Health Issues in Non-communicable Diseases (NCDs)

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Public Health is an evolving discipline with an ever increasing perimeter. One of the major threats for development in the twenty-first century for India is the non communicable disease (NCD) burden. NCDs with its gamut of dietary and physical activity patterns, hereditary factors, smoking and alcohol consumption undermines the social and economic development and threatens the achievement of development goals.

The four main non communicable diseases - cardiovascular disease, cancer, chronic lung diseases and diabetes kill three in five people worldwide, and cause great socioeconomic harm within all countries, particularly developing nations

. A growing chorus of public health experts is calling for a movement to address the non-communicable diseases (NCDs) that are collectively responsible for one-quarter of the deaths and disability among the world's poorest billion people.¹

In India, the age-standardized death rate per 100 000 for all NCDs is 781.7 males and 571.0 females². The high NCD burden has been documented extensively. Sanjay Kinra et al³ found that the age standardized prevalence of some risk factors for NCDs were: tobacco use - 40%; low fruit and vegetable intake - 69%; obesity - 19%; dyslipidaemia - 33%; hypertension - 20% ; diabetes - 6% and underweight - 21%. Risk factors were generally more prevalent in south Indians compared with north Indians.

Iyer et al studied employees of a large petrochemical industry in Vadodara and documented that although the medical history revealed the prevalence of hypertension to be 14.2%, when the clinical profiles were looked into, it was

seen that 36.7% had hypertension (JNC VII classification) Using the WHO criteria of WHR, it was observed that 68.7% of the employees had central obesity.⁵

In the Mumbai Cohort Study (MCS) conducted in the main city of Mumbai, a total of 148,173 persons aged ≥ 35 years were recruited during 1991–1997. The study reported that less than 20% men and women had normal BP level. At every time point greater all-causes mortality was observed in subjects with stage-II hypertension as compared with other groups⁷.

Case-control studies indicate that tobacco use, obesity with high waist: hip ratio, high blood pressure, high LDL cholesterol, low HDL cholesterol, abnormal apolipoprotein A-1: B ratio, diabetes, low consumption of fruits and vegetables, sedentary lifestyles and psychosocial stress are important determinants of cardiovascular diseases in India⁸.

Rajeev Gupta et al concluded that urban middle-socioeconomic status (SES) subjects have high burden of cardiovascular risk factors in low-income countries. They found that adjustment for educational status attenuated linear trends in BMI and total and LDL cholesterol and accentuated trends in systolic BP, glucose, and HDL cholesterol. There was significant association of an increase in education with decline in smoking and an increase in overweight.⁹ Type 2 diabetes is an increasing epidemic in Asia, characterized by rapid rates of increase over short periods and onset at a relatively young age and low body mass index. Prevention and control of diabetes should be a top public health priority in Asian populations.¹⁰

Thus we can conclude that we are approaching a crisis like state in non communicable diseases. The increasing burden poses a barrier to development. For every 10% rise in mortality from NCDs, the yearly economic growth is estimated to be reduced by 0.5%¹¹. On the basis of this evidence, the World Economic Forum now ranks NCDs as one of the top global threats to economic development¹².

Mahal et al. (2010)¹³ found that the share of NCDs in total out-of-pocket health expenditures in India increased from 31.6% to 47.3%. The financial burden poses an economic threat to India and also the other developing countries and may increase the existing inequalities in relation to health.

This is a challenge of epidemic proportions with long term developmental impacts. The behavioural risk factors, metabolic risk factors and its trends show an increasing trend. International and national mandates are already in place for quite some time. However, the prevalence rates of CVD risk factors have been rapidly rising within India over the past 25 years, particularly within urban communities. The reasons for this high burden of risk factors are speculative and have been poorly investigated. In this regard, cohort studies provide unbiased estimates of the relationship of exposure to outcomes, which would increase understanding of the determinants of CVD. Thus extensive and meticulously planned research has to be promoted, facilitated and implemented in relation to NCDs to fill the gaps in the existing literature. Use of information and communications technology to improve the programme implementation and surveillance systems need to be incorporated. Dissemination is a weak area as on date so sustainable strategies need to be developed. Quality interventions, best practices and lessons learned in the field of non-communicable diseases need to be documented. To ensure all this, operational and managerial skills should be

significantly incorporated in graduate studies in general and post graduate studies in particular.

Advocacy for addressing non-communicable diseases has so far focused heavily on the concerns of wealthier countries, in which NCDs are “largely the result of eating too much, exercising too little, and consuming tobacco and alcohol” The needs are different in low-income countries. The first step forward would be to recognize the lead role of governments in combating this challenge and take necessary steps in response. All sectors of the society shall have to play a pivotal role in the prevention and control strategies. This is the crux of the public health challenge to ensure an effective response. So there is an urgent need to move NCDs higher in the development agenda and ensure changes in financial allocation and service delivery.

Evidence based criteria should be used for choosing interventions. The Lancet series¹⁴ referred to the study done by Cecchini M et al¹⁵ where five selected risk factors were studied in terms of interventions and cost per person per year in US dollars.

	Interventions	Cost/person/year US\$		
		China	India	Russia
1 Tobacco use	Accelerated implementation of WHO Frame work convention on contol	14	16	49
2 Dietary salt	Mass media campaign and voluntary action by food industry to reduce consumptio	5	6	16
3 Obesity, unhealthy diet, Physical activity	Mass media campaign, food taxes. Subsidies, labelling, marketing facors	43	35	118
Harmful alcohol intake	Tax increase, advertise bans, restricted access	7	5	52
4 Cardiovascular risk reduction	Combination of drugs for individuals at high risk NCDs	102	90	173
Total cost per person		172	152	408
(Excludes any cost of synergies or future treatment cost savings)				

Five recommendations for action by countries and international agencies for the UN High-Level Meeting on Non-Communicable Diseases (NCDs) were

1) Leadership and strong high-level political support for a framework of specific commitments to tackle the NCD crisis with the aim of reducing NCD death rates by 2% per year.

2) Prevention through Tobacco Control to achieve a world essentially free from tobacco by 2040, where less than 5% of people use tobacco; Reduce salt intake to less than 5 g (2000 mg sodium) per person per day by 2025; Align national policies on agriculture, trade, industry, and transport to promote improved diets, increase physical activity, and reduce harmful alcohol use

3) Treatment - Deliver cost-effective and affordable essential drugs and technologies for all priority disorders; Strengthen health systems to provide patient-centered care across different levels of the health system, starting with primary care

4) International cooperation by raising the priority of NCDs on global agendas, and increase funding for these diseases; Promote synergies between programmes for NCDs and other global health priorities, including sustainability and mitigation of climate change

5) Monitoring, reporting, and accountability - Identify ambitious targets and a transparent reporting system; Assess progress on the priority actions and interventions; Report regularly to the UN and other forums on progress on these national and international commitments¹⁴.

India is burdened with a multitude of problems in relation to health and its socio-cultural determinants, financial deficits and inequities. Health sector alone cannot manage to address all these issues; hence a multi-sectoral approach targeted at health promotion, individual services, and strengthening of health systems would be necessary. Public Health Experts would be the key stakeholders in NCD prevention and control strategies and would have to

be all inclusive in their approach. Relevant international organizations may be approached to provide key technical assistance and capacity-building in developing countries. This multi pronged approach would also lead to additional benefits besides health and contribute to the society in terms of poverty reduction and national progress.

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