

## Population ageing in India: Health promotion through life course approach

India is witnessing a demographic transition, leading to a rapid increase in the number of older people. A child born 60 years ago in India had an average life expectancy at birth of 32 years, whereas a child born in 2007 is expected to live 64 years and longevity is expected to enhance further. India had the second largest number of elderly (60+) in the world<sup>1,2</sup> as of 2001, gradually swelling up from 24 million in 1961 to 77 million in 2001. Elderly persons in India<sup>1</sup> are likely to constitute 17.5% of the population in 2050 from 7.5% in 2001. The success story of increasing longevity in India is now creating a new challenge for ensuring the well-being of the enormous number of the elderly.

One of the main factors which determines well-being at old age is the chronic noncommunicable disease (NCD). However, empirical evidences suggest that the disability and adverse consequences of NCD can be prevented or postponed by investment in health and fitness promotion throughout life. In 1980, Fries envisaged the idea of 'compression of morbidity' and argued that average age at first infirmity could be raised by postponing the chronic morbidities through changes in lifestyle, and this will shorten the period of senescence to minimum at the end of the life<sup>3</sup>. Thereby, it will be possible to maximize the period of healthy life expectancy. NCDs usually occur later in life, but the risk of most NCDs begins at childhood or adolescence, or even in *utero* through maternal health during pregnancy. Hence, chronic diseases in the adult or in the elderly reflect cumulative life-time exposures to risk factors<sup>4</sup>. Thus a strategy to counter preventable NCD risk factors through life-course approach remains as one of the major targets to improve quality of life at old age. Physical inactivity, unhealthy diet (diet with high calorie, sugar, saturated fats, salt, less intake of fruit and vegetables), tobacco use, and

alcohol intake are components of lifestyle that contribute to a large fraction of NCDs in the population. Chronic NCDs by themselves are a series of overlapping and complicated disease entities; and they share many common risk factors<sup>4</sup>. Tobacco use is one of the most important risk factors of four important NCDs (cancer, heart diseases, stroke, Chronic Obstructive Pulmonary Disease (COPD)). Physical inactivity and unhealthy diets are risk factors of a group of inter-related NCDs like diabetes, coronary heart disease (CHD) and stroke. Hence, all of them can be postponed, cost effectively by an integrated approach.

Decline in the disability rate among the elderly in developed countries suggests 'compression of morbidity'<sup>3</sup>. However, available data in India indicate that the gain in life expectancy is going to be accompanied by increased years of poor health due to chronic diseases, resulting in 'expansion of morbidity' rather than 'compression'. India is experiencing a rapid health transition with NCD emerging as the number one disease burden replacing 'pre-transitional' diseases<sup>2</sup>. India is known as the 'diabetes capital of the world' and also bears the burden of quarter of the world's CHD. Further, the amplifying role of diabetes for other serious NCDs is also an important concern for the country<sup>2,5</sup>. Many cancers linked to preventable hazardous lifestyle are reported to be high in India.

Early age of occurrence of diabetes and CHD has been recorded among Indians compared to developed countries; hence survivors of these diseases face associated disability at a much earlier age<sup>2,5</sup>. Although genetic component plays a part in the early occurrence, modifiable lifestyle factors are considered as the primary driving force of NCDs in India<sup>2,5</sup>. Rapid urbanization, modernization and its accompanying adverse lifestyle changes (e.g. tobacco/alcohol use, unhealthy food habits, sedentary lifestyle) alongside

population ageing are influencing the increased burden of NCDs<sup>2,5</sup>. Therefore, there is an urgent need to intensify NCD prevention efforts in India with emphasis on the aforesaid core risk factors throughout life in order to thwart the NCD epidemic and compress the morbidity in later years. It is particularly important to develop primary prevention strategies to combat the emergence of risk factors in childhood or adolescence<sup>4</sup>. The World Health Organization also recommended life course approach in dealing with age-related NCDs and emphasized positive interventions in earlier life, including better ante-natal care in view of reported links between intra-uterine growth retardation and adult chronic illness<sup>3</sup>. Failing to develop such strategies to prevent NCDs will not only adversely influence in the well-being of ageing population, but will also consume disproportionate amount of costs from our scarce health resources for tackling avoidable health problems.

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