



Contents lists available at ScienceDirect

Acta Ecologica Sinica

journal homepage: www.elsevier.com/locate/chnaes

Challenges of non-communicable diseases and sustainable development of China and India

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ARTICLE INFO

Article history:

Received 23 March 2017

Received in revised form 6 June 2017

Accepted 13 June 2017

Available online xxxxx

Keywords:

Non-communicable diseases

Sustainable development

China

India

ABSTRACT

In light of the global Sustainable Development Goals initiated in 2016, the present paper analyses different aspects of addressing Non-Communicable Diseases (NCDs) such as cardiovascular diseases, cancers, chronic respiratory diseases and diabetes - the major causes of global deaths and disability; discusses the burden of NCDs in China and India - the two most populous countries of the world; reviews their progress and shortfalls in addressing NCDs; and identifies the way forward to tackle successfully the problem of NCDs for sustainable development. The study is based on secondary sources of data available from the World Health Organisation (WHO), World Bank (WB), United Nations and other published sources.

Increased public health expenditure, measured as a proportion of the total health expenditure while implementing Universal Health Coverage, has produced repercussive positive advantages in China. Both China and India have implemented initiatives towards the prevention and control of NCDs in light of WHO Global targets. However, the progress monitoring indicators reveal that, on many fronts, either the commitments are partially achieved, or not yet achieved. This needs increased support to the public sector healthcare system, with a parallel policy and legislation driven approach.

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<http://dx.doi.org/10.1016/j.chnaes.2017.06.012>

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Please cite this article as: S. Rath, et al., Challenges of non-communicable diseases and sustainable development of China and India, Acta Ecologica Sinica (2017), <http://dx.doi.org/10.1016/j.chnaes.2017.06.012>

1. Introduction

The United Nations Development Programme (UNDP) recognises the eradication of poverty in all its forms and dimensions as crucial to sustainable development [1]. The Millennium Development Goals (MDGs) envisioned by leaders of 189 countries led to progressive development in developing countries until 2015. Fifteen years of focused developments have resulted in accomplishing some of the MDGs, such as the reduction of poverty, improvements in education, and increased access to safe drinking-water. Sustainable Development requires a holistic approach considering interconnectivity between social, economic, and environmental issues [2]. Therefore, building on the lessons learnt from MDGs, the new Universal Agenda, with 17 Sustainable Development Goals (SDGs) and 169 targets, reaffirms the Universal Declaration of Human Rights created in 1948, and covers all three generations of rights granted to people under the United Nations, with an inclusive and improved framework [1]. The global SDGs recognise health as a precondition for and an outcome of policies to promote sustainable development [3], as health is interlinked with the eradication of poverty and inequality, economic and scientific development, and clean environment. The chronic Non-Communicable Diseases (NCDs) - primarily cardiovascular diseases (CVDs), cancers, chronic respiratory diseases and diabetes are globally advancing as the major killers [4]. If these chronic diseases are not controlled and prevented, would grow into biggest hurdle for sustainable development.

In light of the global SDGs initiated from 2016, and growing epidemic of NCDs, the present paper analyses aspects addressing health, with special reference to NCDs; discusses the burden of NCDs faced by China and India; reviews their progress and shortfalls in addressing NCDs; and identifies the way forward to tackle successfully the problem of NCDs for the sustainable development. The study makes use of secondary sources of data available from the World Health Organisation (WHO), World Bank (WB), United Nations and other published sources.

2. Global burden of NCDs

Overcoming global burden of NCDs has to be a foremost priority and an essential condition for sustainable development as the human, social and economic costs of NCDs have been faced by all countries but are distressing especially in poor and vulnerable sections of the societies [5]. NCDs are responsible for 68% of all global deaths, and for 16% of premature and preventable deaths occurring at the most economically productive age of below 60, and around 42% at below the age of 70 [6] with a significant proportion of these deaths (80% of the global NCD deaths) occurring in low and middle-income countries (LMICs) [7]. The burden of NCDs is expected to continue to increase further and by 2030, they are estimated to result in 75% of global deaths [8], 65% of deaths in developing countries, and 88.5% in developed countries [9]. Global NCD deaths are caused mainly by CVDs (46.2%) of NCD deaths, cancers (21.7%), respiratory diseases, including asthma and chronic obstructive pulmonary disease (10.7%), and Diabetes (4%) [5]. These diseases are mostly attributable to unhealthy diet, tobacco use, harmful use of alcohol, and physical inactivity.

2.1. NCDs and its risk factors

Most of the premature deaths caused by NCDs are basically preventable by addressing these modifiable risk factors [4]. CVDs, the leading cause for 37% of global deaths [5], and diabetes - emerging as one of the major global health concerns with the increased global prevalence from 4.7% in 1980 to 8.5% in 2014 [11] are generally caused by lifestyle risk factors such as unhealthy diet and physical inactivity. The incidence of CVDs and diabetes is growing despite the fact that they are preventable by addressing these risk factors [12]. Consumption of unbalanced diet - high in energy (sugar, starch

and/or fat) with low essential nutrients - contributes to overweight and obesity and prevalence of nutrition related chronic diseases is ultimately influenced by the energy consumption in relation to physical activity and food quality [13]. Nutritional epidemiology has shown association between dietary patterns with cancers, cardiovascular diseases, and with transitional consequences such as weight gain, raised blood pressure, insulin resistance and hyperglycaemia [12]. Overweight or obese children have higher risk of developing diabetes, cardiovascular diseases, and musculoskeletal disorders such as osteoarthritis later in life, resulting in early death and disability [14]. Excessive consumption of dietary salt (>5 g/day) has been identified as a cause for hypertension [15]. High blood pressure is a risk factor for cardiovascular diseases and strokes [16] and for stomach cancer, osteoporosis and renal diseases [17]. Unhealthy use of alcohol is another important risk factor for global poor health and is the main risk factor causing disease and deaths among the most productive age group of 15–49 years [18]. Tobacco use affects almost every organ in the body and is responsible for cancers, respiratory and cardiovascular diseases, diabetes, etc. [19].

Pollution is also emerging as a contributor to the major NCDs such as heart disease, stroke, cancers, respiratory disorders, along with other diseases and developmental and neurological disabilities. Exposures to polluted soil, water and air resulted in 8.9 million global deaths in 2012, out of which, over 94% occurred in Lower Middle Income Countries (LMICs) [20]. Death as a result of living or working in an unhealthy environment was 12.6 million in 2012 accounting for 23% of all deaths. Unhealthy environment was responsible for 22% of the global burden of diseases [21].

2.2. Global economic impact of NCDs

NCDs lead to fall in productivity due to disability and premature death; an estimate suggests a 0.5% decrease in the annual economic growth, for every 10% rise in NCDs [6]. Rapidly increasing NCDs are growing as the primary cause of disability and premature deaths replacing infectious diseases and malnutrition in LMICs [2]. NCDs lead to developmental challenges, along with health challenges, as they result in a loss of productivity, along with disastrous expenditure for treatments by poor households which cannot afford these [22] due to the continued unavailability, unaffordability, and inaccessibility of essential medicines. Heart disease, stroke, and diabetes in 23 selected LMICs are estimated to lead to a loss of US\$84 billion in economic production. Actions initiated to prevent and control chronic diseases are predicted to prevent 24 million deaths, in turn saving an estimated \$8 billion, which would be around 10% of the anticipated loss in national income in these countries between 2006 and 2015 [9]. Most of the proposed global goals and indicators for NCDs are based on the UN's Declaration on the Prevention and Control of Non-communicable Diseases by consensus [23], and these are complemented by WHO's target of a 25% reduction of deaths due to NCDs by 2025 [8], and often with new targets being set for 2030 [3]. If concerted efforts are not made to control and prevent chronic NCDs, they would affect the sustainable development due to lack of proper supply of healthy and efficient workforce and diversion of huge amount of financial resources to continuous medication required for large and increasing population with chronic illness and maintenance of huge unproductive population with a social obligation.

2.3. Sustainable Development Goals and NCDs

SDG 3 endeavours to “ensure healthy lives and promote well-being for all at all ages” by ending preventable child and maternal mortality by 2030, with a commitment to the progress in tackling communicable diseases, and the prevention and treatment of NCDs, that pose a major challenge for sustainable development [1]. Health is closely linked to other goals, such as targets and sub-goals related to improving

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