

"Bangladesh is Experiencing Double Burden with Infectious Diseases and Non-communicable Diseases (NCD's): An Issue of Emerging Epidemics."

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ABSTRACT

Unlike many low and middle income countries, double burden diseases are serious problem in Bangladesh. Recently, proper understanding and the need for joint interventions against both infectious diseases and non-communicable diseases (NCD's) has been gradually arising. Cardiovascular diseases (CVD's), diabetes, cancers and chronic lung disease are the most frequent NCD's whereas acute respiratory diseases, diarrhoea, neonatal sepsis and malaria are considered as infectious disease so far. Excess calories intake and unhygienic conditions are the most common risk factors, along with genetic predisposition and lifestyle choices. In addition, under nutrition in childhood also affects the human development in many aspects. The key controls of the situations are primary prevention through maintaining healthy life style during all phase of life. Action should focus controlling the risk factors in a unified fashion. Intervention at all levels of society, from communities to governments, private organizations and nongovernmental groups, is crucial for prevention by intensifying awareness of people about a perfect and healthy lifestyle.

Key words: Infectious diseases, Non-communicable diseases (NCD's), Bangladesh

Introduction

Double burden of diseases in low- and middle-income countries (LMIC's) is well recognized now days. However, proper understanding of the need for a joint intervention against both infectious diseases and non-communicable diseases (NCD's) has arisen only recently¹. In 2008, the proportion of premature deaths due to NCD's in population under 60 years of age in low-income countries was 41%, in lower middle-income countries 28%, and in high-income countries only 13%². The most frequent causes of death included cardiovascular diseases, diabetes, cancers and chronic lung disease, and the main underlying risk factors were increased blood pressure (responsible for 13% of deaths globally), tobacco use (9%), elevated blood glucose levels (6%), physical inactivity (6%), and overweight and obesity (5%)³. Excessive intake of calories is one of the

main common factors behind those conditions and risk factors, along with other lifestyle choices and genetic predisposition. On the other hand, communicable diseases are still difficult to control, especially in young children, even though most of the necessary tools and knowledge about their prevention, treatment and control are available⁴. Those tools are both effective and affordable, but they do not reach those who need those⁵.

Methodology

Information was retrieved from documents available mainly in electronic database and on the websites of specialized journal, using the terms double burden disease and health impact of double burden disease in Bangladesh. Results and comment from other researchers work were also evaluated. Around 24 research papers were

retrieved from the database (websites) of several national and international publications and among them, about 16 research papers were reviewed for preparation of this article. The most important, being online collection from different public health journals on double burden diseases related issues, reports on quantitative and qualitative studies, policy analysis of the existing situation in Bangladesh, and government strategies. A scrutiny of the article revealed that, some paper works were also presented in international conferences. Collected documents were skim read to cases, whether they contained information in conjunction with health and economic impact. Data accruing from the research paper were analyzed and data were presented in table, chart and picture as per the requirement.

Results

Global scenario of double burden diseases

An increasing number of countries face a double burden of disease as the prevalence of risk factors for chronic diseases such as diabetes, heart diseases and cancers increase and many nations still struggle to reduce maternal and child deaths caused by infectious diseases, according to a United Nations statistical health report released today. The 2011 report finds that non-communicable diseases, such as heart diseases, stroke, diabetes and cancer, now make up two-thirds of all deaths globally, due to the ageing population and the spread of risk factors associated with globalization and urbanization.

The control of risk factors such as tobacco use, sedentary lifestyle, unhealthy diet and excessive use of alcohol becomes more critical, it says, with the latest WHO figures showing that about four out of 10 men and one in 11 women use tobacco and about one in eight adults is obese. Examples of simultaneous occurrence of under nutrition in deprived parts of the population and obesity among more affluent were well recognized in many countries, but these recent

changes tend to result in the opposite manifestations of malnutrition even within a single household. For instance, an underweight child and an overweight mother within the same household were observed in 11% of the households in rural areas in Indonesia and 4% in Bangladesh⁶. The figures were even worse in the refugee population living in Western Sahara, in a protracted emergency and dependent on food assistance, where 24.7% of pairs of children aged 6-59 months and mothers aged 15-49 years were affected by this 'double burden of malnutrition'⁷.

Bangladesh situation

Only about 70 years back, the prime concern of physician was infectious diseases which were the leading cause of death for centuries. By the dawn of the third millennium, the entire world is drifting towards the non-communicable diseases (NCDs). By 2020, it is predicted that these diseases will be causing seven out of every 10 deaths in developing countries where, the transition imposes more constraints to deal with the double burden of infective and non-infective diseases in a poor environment characterized by ill-health systems. Many of the non-communicable diseases can be prevented by tackling associated risk factors. The development and implementation of NCDs prevention policies in the developing countries like Bangladesh, is a multidimensional challenge⁸.

Non-communicable diseases have a considerable toll on individuals, societies and health systems. Located in South Asia, Bangladesh has a population of about 150 million and a per-capita health expenditure of US \$ 64 will not be sufficient enough to combat with this condition. Globalization, unplanned urbanization and environmental and life style factors on a background of overpopulation have been contributing significantly.

Bangladesh is within the early stages of the

demographic transition that is advancing in future. The proportion of the population (65 years and above) will move from 4.5% in 2000 to 6.6% in 2025. Along with demographic transition, Bangladesh has also been going through a rapid epidemiologic transition in which NCD's accounts for two-thirds of all deaths. In 2004, NCD's accounted for 61%, with the remainder from communicable diseases and maternal and child health (MCH) issues. Of the total burden, CVD accounts for 13.4%, mental health 11.2%, cancer 3.9%, respiratory diseases 4.0%, diabetes 1.2%, and injuries 10.7%⁹. However, the vital statistics of Bangladesh (Table 1)¹⁰ shows that the life expectancy has increased further indicating that the government has taken the problem seriously and addressing it with its meager resources.

Bangladesh is yet to develop a national NCD's plan that includes a human resources plan to cover prevention, diagnosis and treatment. At present, there is no investigation of NCD's related morbidity and mortality. More complete surveillance and information related to the economic burden of these diseases are needed. At present there is no investigation of NCD's related morbidity and mortality. A national survey of NCD's risk factors was carried out in Bangladesh, using WHO STEPS approach. This first nationally representative survey provides essential information on key indicators of NCD's risk factors and creates opportunities for policy makers and stakeholders to adopt appropriate interventions. Almost all adults (98.7%) have at least one risk factor and a significant section of people have two or more risk factors¹¹. The policy makers should also devise provisions of behavior change activities to prevent major NCDs (namely: diet, exercise, periodic screening of risk factors) and treatment of selected NCDs into the Essential Services Package (ESP), in addition to the existing services¹².

Table 1: Vital statistics of Bangladesh

Total population	155,000,000
Gross national income per capita (PPP international \$)	1,940
Life expectancy at birth m/f (years)	69/70
Probability of dying under five (per 1 000 live births)	41
Probability of dying between 15 and 60 years m/f (per 1 000 population)	163/136
Total expenditure on health per capita (Intl \$, 2011)	67
Total expenditure on health as % of GDP (2011)	3.7

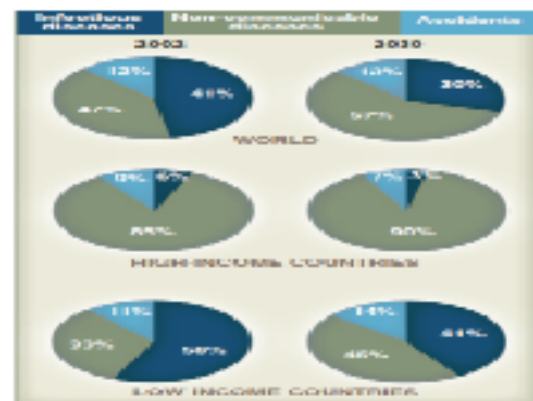


Fig. 1: The proportional distribution of disability adjusted life years, contributable to infectious diseases and NCDs for (top) the world, (middle) high-income countries, and (bottom) low-income countries for 2002 and 2030¹³.

Difficulties on controlling the situation¹⁴:

Major Gaps in Chronic diseases control

- Services provided in PHC mostly focus on MCH & CD control (MDG driven!)
- As disease pattern is changing, NCD care & control program in PHC is not adequate
- Lack of skilled HR to address NCDs
- NCDs are not prioritized among DPs& UN agencies
- NCD surveillance and information is lack on economic burden
- Coordination between public & private services is lacking

Challenges¹⁴:

- □ Needs more emphasis in policies (Health Policy, 5-year plan, Nutrition Strategy, etc.)
- □ Priority setting within the Health Sector Program
- □ Budget allocation
- □ HR and logistics

Discussion

There is high magnitude of double burden disease in South Asia, although differences among countries and also within urban and rural areas of each country are evident which depends on the level of developmental and epidemiological transition. These disease burdens seem to be more prevalent during the productive middle period of life and adversely fall an impact on workforce productivity and economic growth. Absence of well-established disease surveillance data prevents precise estimation of NCD's burdens, although the direction of change is clear that burden is rising. More accurate estimation of burden, their risk factors and trends of time would help to better inform policy and to monitor change in response to public health interventions¹⁵.

The developed countries are already entered in the fifth phase of epidemiological transition but due to financial and social constraints, the middle and low income countries are yet to stabilize their positions in this transitional development. Bangladesh is currently in the midst of transition and gradually the disease pattern is shifting from a profile of infectious diseases and under-nutrition to one increasingly characterized by NCDs. The effects of this disease burden in Bangladesh are not yet readily felt but current prognosis indicating the disease progress and life style changes of people will effect severely. However, as of now the progresses made by Bangladesh in different sectors of health and MCH is very impressive despite resource scarcity and climatic conditions¹⁶.

While the double burden grows, the health systems can adequately put emphasis on non-communicable diseases (along with communicable diseases) becoming the integral to augmenting capacity of health systems to meet the evolving health challenges. Health service delivery needs to adapt to generate transition from a predominantly acute

care model to one that balances prevention with disease management and palliative care. This essentially needs to integrate NCD's prevention and management into primary health care¹¹.

Conclusion

Infectious and NCD's are linked to various modifiable risk factors which are intermingled with peoples' daily lifestyle include tobacco use, alcohol abuse, unhealthy diet, physical inactivity, obesity, raised blood pressure and blood glucose, abnormal blood lipid, environmental carcinogens etc. So, approach should be taken to embrace an effective prevention program by amplifying awareness of people about a perfect and healthy lifestyle.

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